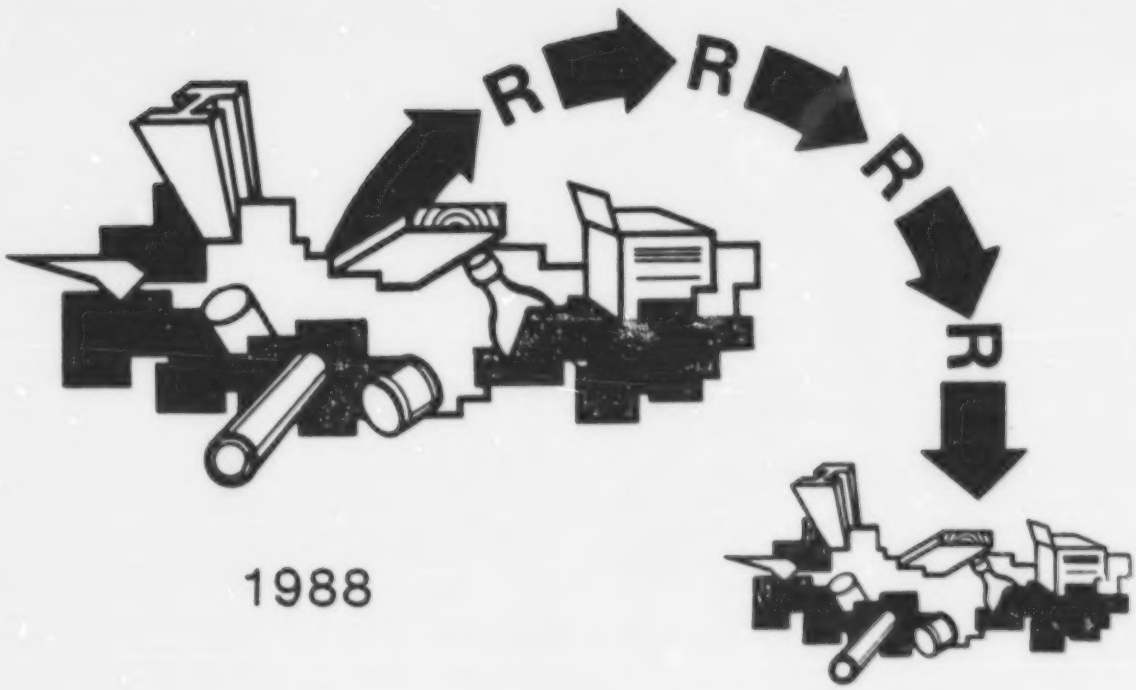
Canadian Council of Ministers of the Environment

CCME

Le Conseil canadien des ministres de l'environnement

Legislative Initiatives Relating to Packaging and Implications for the National Packaging Protocol



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LEGISLATIVE INITIATIVES RELATING TO PACKAGING AND IMPLICATIONS FOR THE NATIONAL PACKAGING PROTOCOL

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1.0 INTRODUCTION AND STUDY BACKGROUND

1.1 Background to and Purpose of the Study

In 1989, the Canadian Council of Ministers of the Environment (CCME) called for the undertaking of an initiative to:

> "develop a National Packaging Protocol (NAPP) by early 1990, which would set targets and schedules for the minimization of packaging waste and contribute to a 50% overall reduction in waste generation by the year 2000."

From a public sector perspective, the impetus for action towards minimization of the disposal of packaging has emerged out of concern regarding the growing solid waste management crisis and the associated environmental and economic costs to society of disposal. It is estimated that packaging manufactured in, or imported into, Canada comprises an estimated 33.4% of municipal solid waste (by weight). The rapid depletion of landfill capacity in the densely populated areas of the country, together with these environmental and economic concerns, is making waste management the emerging issue of the 1990's. Projections suggest that **packaging will grow at a simple average annual rate of 3.5% by weight** (between 1988 and 2000). The trend towards lighter materials notwithstanding, overall growth in the packaging industry is likely to offset reductions that would otherwise occur in the tonnage of packaging material entering the solid waste stream.

Canadian private sector participation in the NAPP-related effort to develop a strategy for minimizing packaging waste has, as the Background Report on Stakeholders indicates, been strong. This participation has been compelled, in large part, by concern regarding the many different and potentially conflicting directions which governments across Canada could take to achieve packaging waste diversion, in the absence of a coordinated and comprehensive examination of differing options and their respective impacts.

Strong industry involvement in this effort has been further prompted out of the fear that the kind of fragmented approach to packaging regulation emerging south of our borders, could occur in Canada and lead to many undesirable economic consequences for Canadian industry and, ultimately, for the Canadian consumer.

Participation in the NAPP by consumer and environmental organizations has emerged out of concern regarding the environmental and economic costs to society of waste disposal and out of the conviction that, among others, serious and immediate action must be taken to provide consumers with packaging which is responsive to these problems.

One of the issues which has been central to the deliberations of stakeholders during the on-going process of developing the NAPP, is the extent to which regulation should play a role in ensuring realization of the targets established by the CCME: Is the "clout" associated with regulation required to achieve these ambitious aims? Associated with this is the question regarding which jurisdiction(s) should have responsibility for enacting and enforcing any such regulation.

The purpose of this Report is to provide a basis for assessing the appropriate role, if any, of regulation in the strategy for achieving the targets of the National Packaging Protocol. Objectives of this report which arise from this purpose are as follows:

- To provide a description of baseline regulatory conditions and approaches to packaging in Canada as well as the rationale underlying these approaches, through examination of the experience of each of the provinces and the federal government;

- To examine and learn from the experience of other jurisdictions, in order to:

  - identify problems and pitfalls arising out of regulatory action elsewhere which should be avoided;

  - identify any regulatory initiatives which appear to be effective and which may be transferable to the Canadian experience;

- To examine jurisdictional opportunities and limitations under Canada's Constitution which must be "factored" into development of a realistic strategy for achievement of National Packaging Protocol targets.

1.2 Sources of Information and Limitations of this Study

Information and analyses provided in this Report are based on interviews and a review of secondary source material, carried out over a seven month period, between July, 1989 and February, 1990. During this time, roughly a hundred sources have been contacted in Canada, the U.S. and European jurisdictions, and, as Appendix A indicates, many documents have been assembled and reviewed. It should be noted that, in many cases, regulatory initiatives in the area of packaging are very recent and difficult, therefore, to conclusively assess with respect to their effectiveness in achieving long term goals.

It should also be noted that there are questions which have arisen over the course of this study relating to the federal government's jurisdiction in the area of solid waste management. This study cannot provide a definitive opinion regarding these legal issues, many of which will have to be resolved through examination of Canadian constitutional law once it has determined which aspects of packaging are to be regulated. An attempt has been made, however, to highlight the questions surrounding the jurisdictional issue and to examine the implications of uncertainty regarding the federal role for the National Packaging Protocol. In this regard, it is important to make a semantic distinction between "federal" and "national" activities. By "federal", we mean action by the federal government. "National" actions denote these which are undertaken across Canada - perhaps through inter-Provincial cooperation and consensus.

Finally, while this study has focused on regulatory approaches there are a number of non-regulatory lessons which have emerged from the examination of Canadian and other jurisdictions' experience, and which are noted in this report.

1.3 Report Format

The remainder of the report is presented in four sections:

Section 2, The U,S. Experience, reviews the directions which the U.S. has taken, characterizes the lessons which can be learned from the American example and provides a very useful and interesting context within which to examine existing and potential future Canadian actions in the area of solid and packaging waste minimization.

Section 3, The Canadian Experience, examines the packaging waste-related issues and initiatives being undertaken in each of the provinces and at the Federal level and characterizes some of the contrasts between the U.S. and Canadian approaches.

Section 4, Other Jurisdictions' Experience, looks at responses to the packaging waste issue in other parts of the world and assesses their relevance for the development of the National Packaging Protocol.

Section 5, The Lessons Learned, draws together the experience of Canadian and other jurisdictions in order to provide direction regarding the role(s) which legislation may be able to exert in the achievement of CCME targets for waste minimization.

2.0 THE UNITED STATES EXPERIENCE

2.1 Overview

The experience of the United States in the area of solid waste management provides an alarming "preview" of events which could evolve in Canada, in the absence of strong national leadership, and reinforces the importance of the current CCME initiative.

According to federal estimates, the amount of waste generated each year in the United States has risen by more than 80% since 1960, and is projected to increase by an additional 20% to 193 million tons by the year 2000.[1] At that rate, an annual 56 million ton shortfall in disposal capacity is projected by the turn of the century.[2] As in Canada, **packaging is recognized as a critical component of the waste stream**, comprising as it does, an estimated one-third of all solid waste reaching disposal facilities in the United States. It also is among the most rapidly expanding elements of solid waste management, having risen from 24 million tons in 1960 to 42.7 million tons in 1986.[3]

The enormity of the crisis has placed the U.S. at a crossroads regarding its use of materials and energy resources - and its propensity to consume rather than conserve. In the absence of federal direction and leadership, municipal solid waste was the single most important concern addressed in the latest sessions of state legislatures, with over 2,000 bills being presented. This proliferation of bills at both state and municipal levels has been characterized by the enactment of a wide range of regulatory initiatives, including mandatory recycling laws, procurement and minimum content regulations, materials and packaging bans, numerous forms of packaging and non-packaging-related taxes, legislated waste minimization and recycling targets and incentives.

As the following discussions will demonstrate, the fragmented approach to solid and packaging waste management which has arisen in the United States is harmful to all government and non-government stakeholders and provides many useful lessons for the formulation of an effective National Packaging Protocol.

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1 U.S. Environmental Protection Agency (EPA). Markets Study. (1989) p.8.

2 Kovaks, W.L. Presentation sponsored by Canadian Institute for Environmental Law and Policy. on "Getting Serious About Waste Reduction" (December 5, 1989).

3 Coalition of Northeastern Governors (CONEG). Final Report of the Source Reduction Task Force. (September, 1989) p.13.

2.2 The U.S. Federal Government Role

The regulatory power which the federal level of government in the United States can exert in the area of solid waste management is much greater than in the Canadian federal context (see Section 3.1) as it has the mandate to legislate baseline environmental requirements for the country and its regulations supersede any passed by state or local jurisdictions.

In practice, however, the federal government has not exercised its powers. While in 1976 the Resource Conservation and Recovery Act (RCRA) was enacted and gave the Federal Environmental Protection Agency (EPA) the mandate to provide technical and funding assistance to state for development of solid waste management plans, these funds were eliminated from the federal budget in the early Reagan years.

The many problems arising from the fragmented approach taken to solid waste management since the early 1980's (Section 2.3) have given rise to significant state and local pressure on the federal government to provide leadership and to assume a coordinating role.

Although the Clean Air Act has consumed much of the EPA's attention, the Agency did recently introduce federal procurement guidelines and an "Agenda for Action" addressing solid waste. As the following brief outline of the Agenda suggests, the prescribed federal role in implementing this Agenda remains a non-regulatory one. Specifically, the Agenda:

- Sets a national target of 25% solid waste reduction by 1992, to be achieved through source reduction and recycling;

- Endorses the hierarchy of source reduction (and re-use) and recycling;

- Sets out the role of various stakeholders in achieving six Agenda objectives, namely:
  - i) Increase the information base available in the area of solid waste management;
  - ii) Increase solid waste management planning;
  - iii) Increase source reduction;
  - iv) Increase recycling;
  - v) Reduce the risks associated with solid waste combustion; and
  - vi) Reduce the risks associated with landfills.

The federal role would be one of, for example, developing educational and technical materials, collecting data, developing a national research and development (R&D) agenda, providing technical assistance in the

area of source reduction by holding regional workshops, developing a "National Recycling Council" and other such "support" functions.

It is perhaps best summarized in the Agenda, as follows:

> "When Congress passed RCRA, it recognized that state and local governments have primary responsibility for municipal solid waste management but it also gave the EPA regulatory and assistance responsibility in this area. Many of the recommendations in this report were developed with the recognition that strong national leadership is essential to finding solutions to what has become a widespread national problem."[4]

The recommendations within the Agenda do not appear to tackle in any direct way, the need to "sort out" and perhaps reduce the great variety of legislation being promulgated. However, the importance of having accurate information is highlighted by the following assessment that:

> "Legislation, particularly at the Federal level, may, in fact, be the most effective way to mandate certain disposal and manufacturing processes. However, in order to be effective, it must be based on fact...Adequate research prior to drafting a bill may eliminate the long delays and redrafts...Beginning with voluntary measures and phasing in mandatory regulations may afford an opportunity to fine tune the legislation where it is needed and may help industry to change in a more timely way."[5]

At least ten solid waste management bills to reauthorize the RCRA are under consideration in the current session of Congress. The majority of these advocate a stronger federal role and a more integrated approach towards the management of municipal solid waste. Two of them address packaging in some detail, advocating the establishment of a multi-stakeholder body to address packaging and product-related issues. Whether they receive their due attention in this session or next, they and the entire reauthorization of RCRA are currently regarded as the principal means of reintroducing solid waste onto the federal agenda.

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4 Office of Waste Management, U.S. Environmental Protection Agency. The Solid Waste Dilemma: An Agenda for Action. (February, 1989) p. 11.

5 Environmental Action Coalition. Collision Course: Plastic Packaging vs. Solid Waste Solutions. (1989) p.70

2.3 Selected State and Municipal Approaches

2.3.1 An Overview of Issues and Responses

In the absence of federal direction and facing the prospect of depleted landfill capacity, many states have enacted legislation and regulations dealing with **recycling**. While these are discussed in some depth below, it is useful to note that a number of problematic by-products have arisen:

- Plastics have increased their share of the waste stream by weight from 3% in 1970 to 8% and nearly 30% by volume in 1989. It is expected to rise to at least 10% by 2000.[6] Because of the wide variation in the composition and properties of various types of plastic packaging and particularly the lack of adequate volume, its recycling has been difficult;

- In response to laws mandating "degradability" and banning "non-degradable" materials, the plastics industry has claimed "bio- and photo-degradability" for some products. This has caused consumer confusion and generated uncertainty and controversy around what is, and is not, "environmentally friendly" and "degradable".

- Additional definitional problems have emerged regarding the meaning of "recyclability";

- Much of the emphasis of legislators has been on the supply side of recycling, to the detriment of the demand side.

The rising costs of disposal and recycling have also prompted a confusing array of taxes and fundraising measures at municipal and state levels. Moreover, fragmentation has led to competition among the states, whereby those offering less stringent or punitive legislative frameworks have been able to attract industry, at the expense of those taking strong stands on the solid (and packaging) waste management issue. Interstate movement of waste has arisen as a problematic and controversial issue.

The ensuing discussion of state and municipal initiatives highlights some of the major types of regulatory action which have emerged and is followed by an analysis of the lessons which can be learned from the U.S. example. **(A tabulation of selected States' regulatory/programme initiatives can be found in Appendix B.)**

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[6] Collision Course. p. iii.

2.3.2 Reduction Initiatives

The most far reaching of source reduction initiatives is that being undertaken by the Coalition of Northeastern Governors (CONEG). Because of its direct relevance to development of a National Packaging Protocol and because of its regional as opposed to state-level nature, it is discussed in a later section (2.4).

Bans, which may be considered as a form of reduction, have taken many different forms, in several different U.S. jurisdictions:

- California, Maine, Iowa, Rhode Island, Florida and Minnesota have banned the sale of any **CFC blown polystyrene packaging**, including fast food packaging.

- Connecticut, Florida and Minnesota banned the **plastic can** which is easily confused with aluminum cans, as it was deemed to interfere with aluminum recycling programs by contaminating the end-product and increasing costs..

- The issue of **"degradability"** has come to the fore with the banning in a number of jurisdictions (Florida, and New Jersey), of "non-biodegradable" packaging. In the case of Newark, N.J., one part of an ordinance banning polystyrene and polyvinyl chloride food packaging defined "degradable packaging" in some detail. Independent analysis of the ordinance by the Environmental Action Coalition found that:

  > "this definition, which seeks to clarify the situation surrounding "degradable packaging" is so broad as to allow virtually all of the activity now proliferating in the plastics industry...Furthermore, it does not address the potential problems of additives or of the final degradation or non-degradation of dust or shards that may remain after degradation of plastic resins."[7]

The complexity of issues such as degradability underlines the need to undertake extensive research prior to enacting measures, in order to avoid non-enforceability and the loss of credibility on the part of the legislator.

The Florida initiative, passed in 1988, bans polystyrene foam or plastic-coated paper food packaging unless it is composed of material which is degradable within 12 months or less. The effective date

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[7] Collision Course. p. 63.

for implementing this regulation is one year after degradable products are approved by the FDA. This ban would have the same problems as that of the Newark example, which also cited the 12 month degradability criterion.

- Two other examples of bans are worthy of note. The Suffolk County, N.Y. prohibition of non-biodegradable plastic food packaging, plastic bags and utensils as well as its ban on polystyrene and polyvinyl chloride and associated requirement that food be served in biodegradable packaging are currently being challenged in the courts. The Minneapolis, Minn. ban on plastic non-recyclable food packaging is also being taken to court by the food industry.

In general, it appears that bans on materials which have a demonstrably adverse effect on the environment (eg. CFC's) can be successful. However, attempts to prohibit other materials based on properties which are difficult to define, such as "biodegradability" or "non-recyclability" are likely to meet with a stiff industry response and delay or cancellation.

2.3.3 Recycling Initiatives

The proliferation of recycling initiatives is perhaps best described by a Franklin Associates, Ltd. 1989 report[8]:

> "Recycling goals and state-mandated recycling programs have literally burst upon the scene in the last two years. In fact, 1988 saw the adoption of more state legislation on solid waste and recycling than there ever has been....the nation is now embarked on a restructuring of the solid waste management infrastructure and the development of a recycling infrastructure. There will be hundreds of millions, if not billions, of dollars spent in this restructuring." (p.39)

Some of the more prominent recycling activities of a regulatory nature are considered below.

Mandatory Recycling

Connecticut, Florida, New Jersey, Oregon, Pennsylvania and Rhode Island are among those states enacting mandatory recycling laws:

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8 Franklin Associates, Ltd. The Role of Beverage Containers in Recycling and Solid Waste Management: A Perspective for the 1990's. (1989).

- In the case of Connecticut, specific materials are banned from landfill after 1991 (eg. metal food containers) as a result of the establishment of "intermediate processing centers" to handle recyclable materials.

- The New Jersey law, enacted in 1987, requires that each county realize no less than 25% recycling within 2 years of enactment. Each county was required to have its recycling plan approved within 6 months of the law's passing and to recycle at least 3 materials.

- The Oregon initiative requires that every municipality with over 4,000 population provide its residents with the opportunity to recycle, although citizen participation in not mandatory.

- Pennsylvania's mandatory recycling legislation applies to communities of over 10,000 people. Similar to the N.J. case, at least three materials must be collected. Civil penalties of up to $10,000 per violation of the regulations are possible under the legislation.

- The Rhode Island Act requires all municipalities to recycle at least 10% of solid waste over the first three years.

In the case of Massachusetts, state financial support for the establishment of recycling facilities is contingent on municipalities putting mandatory source separation programmes into place.

There are some problems emerging with mandatory recycling, largely as a result of the programmes' failure to deal with the demand side of the recycling "equation". In the case of New Jersey, for example, it was reported that, as a result of mandatory recycling:

> "the price of used newspaper...has plummeted from up to $40 a ton to -$25 a ton - in other words, you have to pay to have it taken away. If legislation like this became widespread, without complementary measures to increase demand for recycled paper products, the effects could be precisely opposite to those intended."[9]

There is also growing concern at state levels that federal requirements for state solid waste management plans and other state level requirements contained in the Agenda for Action are accompanied by little evidence of future provisions for federal funding.

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[9] Rathje, William L. "Rubbish!", The Atlantic Monthly (December, 1989) p. 106.

Other Less Stringent Recycling Initiatives

Much of the remaining recycling-related legislation (with the exception of some funding schemes tied to recycling which are discussed in the next section) requires that cities or regions of certain threshold sizes submit recycling plans, in order to receive state level grants for waste reduction initiatives.

Private Sector Involvement

The array of recycling activities appearing throughout the U.S. has prompted not only litigious responses from industry, but some substantial national level initiatives. NAPCOR (The National Association for Plastic Container Recovery), concerned with moves to ban plastics as being non-recyclable, was formed by members of the industry to work with state and municipal governments to promote voluntary recycling programmes.

Similarly, the Council for Solid Waste Solutions is a private sector plastics industry organization which is funding education programmes and technical research and is viewed as taking serious efforts to resolve confusion around such issues as "degradability" and "recyclability". These two cooperative industry efforts reflect the growing concern of the plastics industry over the diverse array of measures being introduced by states and municipalities across the country to which they are having to respond.

2.3.4 Funding of Waste Minimization Efforts

Numerous vehicles for raising funds to support waste minimization efforts have been enacted in the United States. These range from deposits and taxes to "user pay" systems and schemes linking environmental charges with the failure to achieve prescribed targets. A cross-section of these are highlighted below.

- The Florida example with its **"advance disposal fee"** (ADF) offers an interesting approach. Under this scheme which specifically addresses packaging, if containers made of glass, plastic, aluminum, plastic-coated paper or other metals do not achieve a recycling rate of 50% by 1992, a fee of $.01 per container will be levied by retailers and will be transferred into a recycling fund. The levy doubles in 1996 if the 50% target has still not been reached and a refundable deposit of $.05 is imposed. A recent (September 1989) EPA analysis notes that:

"Differentiated sales taxes/credits based on container recyclability have been proposed in Maine, New Jersey, New York and other states. These taxes/credits may affect prices and may create a competitive advantage for products and packaging with recycled content or those that are recyclable...However, there has been little experience with these types of taxes, and even less consideration of the size of an effective tax and their placement...**Regardless of how credits or taxes are imposed (at the industry or consumer level), an extrinsic incentive or disincentive should be combined with an awareness program in order to inform consumers about which, how much, and why products are being credited or taxed."**[10]

- In the case of California, the redemption rate for aluminum and glass beverage containers' of $.01 rises to $.03 if a recycling rate of 65% is not achieved by 1991. These redemptions contribute to a "Recycling Fund".

- Maine has extended its **deposit legislation** to include wine, juice, ice tea and water. If the return rate for wine and liquor containers fails to reach 60% during 1991, the deposit will increase from $.15 to $.25. Other states such as Connecticut, Massachusetts and New York also have mandatory beverage container deposit laws.

- A "Variable Waste Disposal Charge" (VDC) currently under consideration in New Jersey would establish a system where variable fees for collection would be charged, based on a "user pay" principle yet to be finalized (eg. based on the number of bags collected, frequency of collection, etc.)

- In the case of Seattle Washington, residents pay $13.75 to have a single can of trash picked up four times each month, and $9.00 for each additional can. While these steep rates have induced Seattle residents to buy more recyclable and fewer packaged goods, it is argued by consumer groups that consumers are not provided with enough recyclable goods to escape such high fees, and that industry, the manufacturers of packaging, should bear some of the cost.

The relative efficiency and effectiveness of these funding measures are difficult to assess. Perhaps the two greatest challenges are:

- To develop a system where the magnitude and distribution of the "tax" or "charge" are commensurate with the responsibility of the stakeholder(s), be they the consumer, industry and/or government; and

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[10] U.S. Environmental Protection Agency. Promoting Source Reduction and Recyclability in the Marketplace. (September, 1989) p. 34.

- To ensure that the magnitude of the charge is a reasonable reflection of the cost of disposing of the particular discard.

Tax credits and incentives are also found in states such as New Jersey where industries buying recycling equipment receive a 50% tax credit against state business taxes and in New York, where credits would be given to manufacturers using secondary materials in their products (proposed). In Rhode Island, tax exemptions on biodegradable bags, boxes and wrapping materials and returnable containers, from state sales taxes have also been proposed.

2.3.5 Labelling

As the Background Report to the National Packaging Protocol addressing consumer behaviour indicates, there are a number of contentious issues surrounding labelling. Increasing recognition on the part of the private sector that "environmental friendliness" is an effective marketing tool has led to the growth in claims of "recyclability", "degradability" and "environmentally friendliness" which are distorting and undermining very real efforts to optimize waste minimization efforts. The issue of labelling has been complicated by the proliferation of multi-material packaging and plastics, which makes the environmental choice of the consumer difficult.

- In California, labelling legislation requires that all rigid plastic containers sold as of 1992 have a label indicating their composition.

- Connecticut has passed a law which requires labelling on packaging indicating recyclability, recycled content and/or toxicity.

- Iowa's labelling regulation requires the Environmental Protection Commission to establish a labelling requirement for disposable plastic bags and packaging materials to inform consumers about their degradability.

- An interesting "colour code" labelling system for packaging has been instituted in Palo Alto, California whereby the colours indicate reusability, recyclability and non-recyclability. The system is simple and does not require an appointed agency to make judgements regarding such subjective measures as "environmental friendliness". Moreover, because the label is placed on the shelf and not on the package, the colour can reflect the regional/local recycling infrastructure.

While the labelling issue is a difficult one to resolve, the adoption of a national system which is sufficiently simple for consumers to make product distinctions and choices would be useful, if outstanding issues regarding definitions can be resolved.

2.3.6 Procurement Initiatives

Many state jurisdictions have enacted procurement legislation. Some give price preferences to products containing recycled over virgin material. Others have established minimum percentage purchasing levels of recycled materials such as paper and/or minimum recycled content levels. States such as Maine have enacted a program which bans state purchase of disposable, non-recycled polystyrene products. New Jersey's Act establishes that priority must be given to products with the highest post-consumer material content.

Procurement measures represent invaluable tools, as they provide a leadership model for others to follow and ensure a stable, on-going market for recycled products. Uniform procurement policies among states/provinces would further stabilize demand.

Prior to assessing the implications of the U.S. experience for the National Packaging Protocol, a unique source reduction initiative currently under way in the New England states is briefly reviewed, below.

2.4 The CONEG Example

The Coalition of Northeastern Governors (CONEG) represents a forum for cooperation among nine states, namely Maine, Vermont, New Hampshire, Connecticut, Massachusetts, Pennsylvania, Rhode Island, New York and New Jersey.

In mid 1988, CONEG determined that there was a need for a common approach to the reduction of packaging at source. The Governors, in 1988, established a Task Force to "develop a regional action plan for reduction of packaging at source." The Task Force would be comprised of two representatives from each of the nine member states and was to be assisted in its work by a "technical resources group" consisting of private sector and consumer groups.

In its Interim Report (April 1989) the Task Force identified the need for:

- Voluntary initiatives by industry;
- Commonly agreed-on indices, goals and standards and a mutually agreed-on definition of preferred packaging;
- Goals and timetable for:
  - i) volume reduction;
  - ii) weight reduction;
  - iii) toxicity reduction;
  - iv) recyclability;
  - v) recycled content;
- Consistent and coordinated education; and
- Financial incentives and disincentives.

The Interim Report stated that the Task Force would submit to the Governors a Final Report incorporating a detailed plan for an on-going institutional framework to coordinate source reduction activities. This Final Report was completed in September, 1989 and presented to the Governors in that month. It recommended dissolution of the Task Force and the creation by CONEG of a **Northeast Source Reduction Council** whose mandate should be to:

- "Provide a publicly credible and accountable basis for industry to undertake a continuing process of source reduction";
- Provide a forum for the development of region-wide solid waste management practices and policies regarding packaging, "in recognition of the interstate character of the market economy";

The Council would be constituted in a manner reflected by the accompanying diagram (see Exhibit 2-1). The Final Report also recommended adoption by the nine states comprising CONEG, of **the "hierarchy of preferred packaging guidelines"**[11], namely:

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[11] Coalition of Northeastern Governors (CONEG). Final Report of the Source Reduction Task Force. (September 8, 1989) p. 17.

No packaging:

"The need for any packaging of a product should be evaluated in the research and development stages...the "no package" preference applies to products at retail and wholesale levels...examples include bulk delivery (eg., liquids or solids) to food industries; retail sales from bins of hardware products, produce, housewares, toys and other items."

Minimal packaging

"Alternative methods of product and packaging design should be pursued to minimize packaging material required...through product design changes...modifications to packaging design...new or different types of packaging; lightweighting with volume reduction...single packaging...and different modes of shipping which require less product packaging."

Consumable, returnable or refillable/reusable packaging:

"Consumable packaging is that which is eliminated in the process of using the product so that no packaging remains (eg., water soluble packets for detergents). Consumable packaging should not be considered to be preferable if its use would have a negative environmental impact on air and water quality."

"A returnable package is one which is returned to business or industry for reuse and redistribution;"

"Refillable/reusable packaging is packaging that may be refilled by a customer or consumer, manufacturers or bottlers from bulk or larger size containers...Packaging that can be refilled/reused for its original purpose is preferable to packaging which is refiled/reused for a secondary purpose."

Recyclable packaging/recycled material in packaging:

"Packaging should be designed to maximize recycling of the package waste and/or to be composed of recycled material. In recognition of the importance of the total recycling system, **a package is considered to be recyclable only if there is an economically viable and widely available collection, processing and marketing system for the material...** A package designed to be both recycled and composed of recycled material is given the highest priority...within this category."

"...recyclability of a package is maximized when that package is made of a homogeneous material or of materials that do not need to be further separated prior to introduction into the recycling process..."

"Recycled content should be composed to the greatest extent possible, of post consumer waste material-- a waste product or material generated by a business or consumer which has served its intended end use and which is discarded for disposal or recycling. **the use of in-plant or mill scrap alone is not sufficient for the package to be considered a recycled content package.**"

It was then determined that over its first six months, the Northeast Source Reduction Council should:

1. Urge industry to continue to remove toxic agents from packaging (eg. lead, cadmium & mercury);

2. Draft model legislation ensuring reduction of toxic substances in packaging to the maximum extent feasible;

3. Urge industry to use "preferred packaging guidelines" to make changes consistent with these guidelines;

4. Establish, within 6 months, quantifiable goals for packaging reduction, minimization and percentages for recyclability and recycled content, consistent with the "preferred packaging guidelines". **These goals should be based on "sound scientific and engineering principles as well as incorporating state solid waste management needs;**

5. Resolve that statutes adopted by member states are not inconsistent with "preferred packaging principles".

6. Develop, within 6 months, a more detailed action plan to assure implementation of the preferred packaging guidelines.

These recommendations were adopted by the Governors in September and progress of the Council will be reviewed in March of this year. With respect to the institutional operation of the Council, the Steering Committee will be directly responsible to the Governors for achieving the goals described above. To this end, it will establish and oversee working committees from the Board of Directors.

The CONEG example is interesting, not only because it provides useful direction in the area of source reduction, but because it provides a model for joint and voluntary public/private sector cooperation towards ends similar to those contemplated for the National Packaging Protocol. Moreover, it is an example of a nine-state accord, where concurrence has been reached regarding inter-state legislative consistency, and where national involvement has been of a supportive, rather than regulatory nature.

2.5 The Lessons Learned

There are a number of lessons which can be learned from the experience of the United States in its efforts to address the solid and packaging waste issue:

- There are, as yet, no examples of national solid waste management regulations. While the federal government is re-establishing its interest and involvement in the area, its "Agenda for Action" is non-regulatory and appears to reflect a "hands off" approach in which authority and responsibility are

seen as remaining within the realm of state and local jurisdictions.

- The absence, during the 1980's, of the Federal government from national leadership in the area of solid waste management has resulted in a fragmented legislative approach which benefits few and which, has, in fact, produced a number of undesirable effects. As the Environmental Action Coalition has pointed out:

  "Since decisions on production and packaging are made for the national and international base, it logically follows that decisions for their reduction and/or recycling should be made by the Federal level."[12]

- The difficulty facing the federal government, in any case, of rationalizing the approaches of fifty jurisdictions to the solid waste management issue represents an important point of reference for the development in Canada of a National Packaging Protocol. Enforcement of Canadian standards on imports of American industry will be challenging in the absence of strong national leadership south of the border.

- The success of attempts to legislate/ban in areas where definitional problems or information gaps exist (eg. degradability; recyclability; and environmental friendliness) has been questionable and should be treated with caution. In particular, the debate regarding the environmental effects of single and multi-resin plastics has been a source of confusion for the consumer, industry and government and has generated a varied and, at times, ineffectual legislative response.

- The approach to recycling must be an integrated one. On the supply side, mandatory recycling has reportedly resulted in a decreased quality of recyclables. Standards must accompany this type of legislation. Further, recycling initiatives which have focused solely on the "supply" side (eg. through the implementation of mandatory recycling) without incorporating measures to stimulate downline markets, have, in some instances, generated counter-productive results.

- One of the avenues being pursued by the New England states is to develop a regional approach to the provision of recycling infrastructure. While Maine may become the paper recycling centre for the area, Massachusetts may "specialize" in glass recycling and another state, in plastics. With this regional approach, investors in recycling can be assured of stable markets and regional support and a more rational economic recycling infrastructure can be established.

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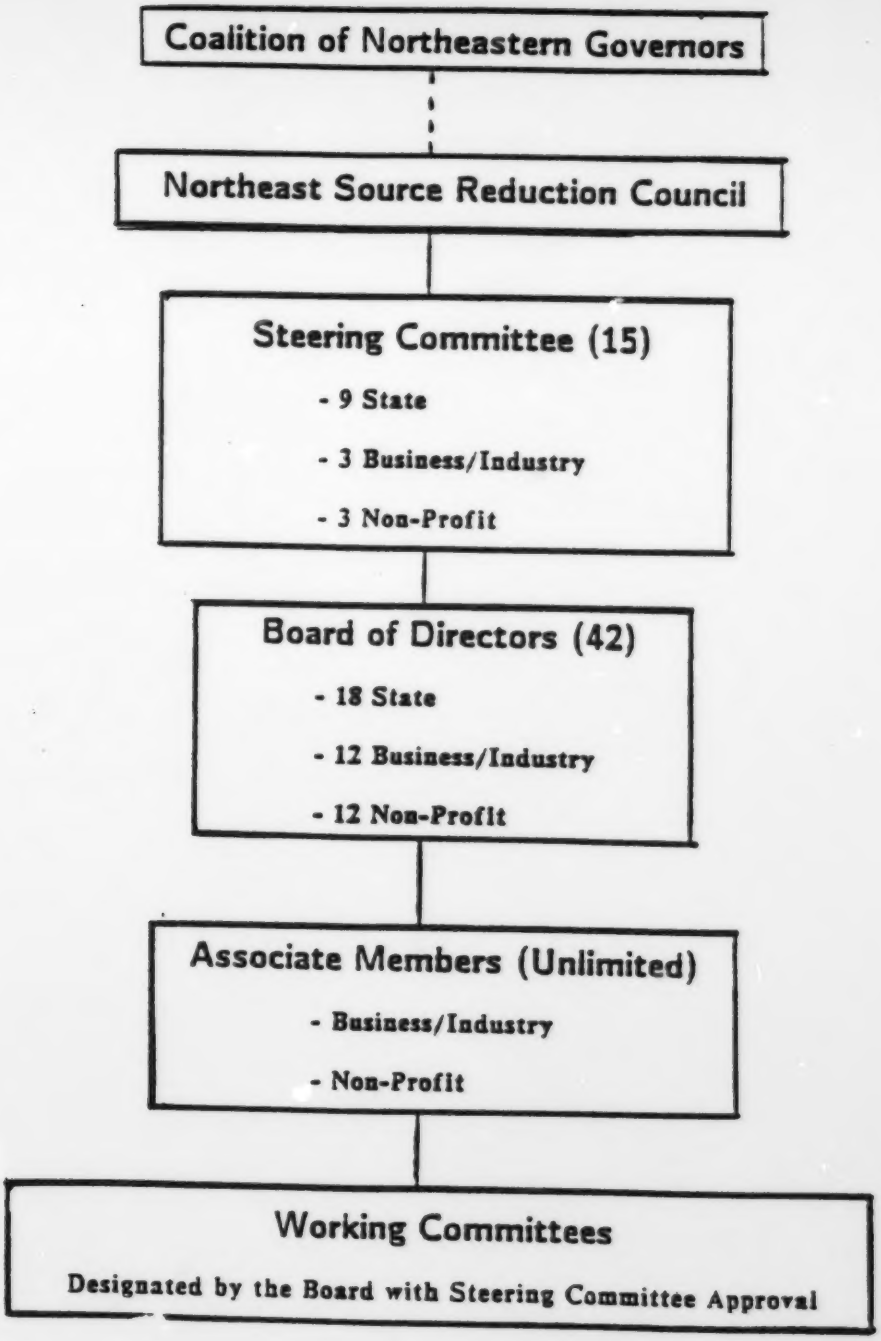
12 Collision Course. p. 58.

- The CONEG example and the structure and functioning of its Source Reduction Council represent interesting models to be considered in developing an implementation mechanism for the National Packaging Protocol. They reflect an apparently successful attempt to generate public/private sector cooperation spanning nine state jurisdictions in the area of packaging waste minimization.

- The establishment of "taxes" or levies on packaging which does not attain a certain recycling rate by a specified date in the future is an approach which appears to be worthy of consideration. It places the onus on industry to ensure a sufficient recycling rate, while providing (adequate) lead time for industry to adapt. It also penalizes the package user if the package imposes a cost on society by remaining in the waste stream after the appointed date. By applying the tax at the retail level, the consumer is given an opportunity to "vote" for a product which has achieved the target, and which, therefore, costs less.

The American example appears to be one where solid waste has reached or is approaching crisis levels in many states. The regulatory response has been varied and piecemeal. Because much of this legislative activity has emerged since 1988, it has been difficult to identify those states which represent exemplary or successful models and to pinpoint initiatives which have a demonstrated, positive track record. However, there are, as noted above, a number of lessons which can be learned from the U.S. experience.


Coalition of Northeastern Governors
Northeast Source Reduction Council
Steering Committee (15)
- 9 State
- 3 Business/Industry
- 3 Non-Profit
Board of Directors (42)
- 18 State
- 12 Business/Industry
- 12 Non-Profit
Associate Members (Unlimited)
- Business/Industry
- Non-Profit
Working Committees
Designated by the Board with Steering Committee Approval

3.0 THE CANADIAN EXPERIENCE

3.1 Overview

Geographic, demographic and economic base variations across the country have naturally resulted in different approaches to the solid waste management and packaging waste issues. Indeed, attitudes, motivations, conditions and government responses have been found to vary considerably among the provinces, with respect to the following:

- the acceptability of incineration/energy recovery as an option;
- the economic viability and/or methods of multi-material recycling;
- efficacy of regulation and legislation versus "voluntary" actions, as contrasting means of dealing with waste management;
- urban as opposed to rural settings, with their respective implications for packaging and solid waste diversion.
- the extent and nature of public/private sector cooperation in the formulation and implementation of solid waste management/packaging-related initiatives.
- While some provinces, like P.E.I., do not permit non-refillable (NR) beverage containers, others, like Newfoundland use entirely NR.
- With the exception of Newfoundland and the Yukon/NWT, all Provinces have mandatory deposit systems, though some are considerably more stringent and broadly targeted than others.
- Some provinces are strongly pursuing curbside collection and "blue box" programmes (eg. Ontario, Quebec, Nova Scotia) and have household participation targets attached to these programmes. In the case of B.C., it appears that while the Province will provide support for curbside collection, it will be up to each municipality to determine the most effective means of dealing with its waste disposal issue.

This considerable variation from province to province has evolved with relatively limited federal regulatory intervention. As Section 3.2 will show, there is some doubt as to the extent of federal jurisdiction in the domain of packaging and solid waste management.

That increasing importance and urgency are being given to the issue of solid and packaging waste management is underscored not only by the CCME directive which is the subject of this study, but by the fact that **many Provinces are in the process of completing or have recently completed major reviews of their respective approaches and are about to introduce new policy initiatives.** (These are discussed in Section 3.3 and in Appendix C.)

Following is a discussion of federal and provincial regulatory activities to date. Their treatment, rather than being exhaustive, is intended to provide a basis for developing a National Packaging Protocol which incorporates consideration of practical regional, economic and jurisdictional issues and realities.

3.2 The Federal Role

The importance of national leadership in the area of solid waste management is highlighted by the U.S. experience where fragmented and uncoordinated action at state and municipal levels has occurred in the absence of clear national direction and has had many undesirable consequences for industry, the consumer and government alike.

Because the aim of the National Packaging Protocol is, by definition, to develop a national approach to the area of packaging waste minimization, the ability, under the Constitution, of Canada's federal government to act is of primary importance to the CCME initiative.

Under the United States' federal system, the national government appears to have a broad mandate to regulate in the area of solid waste management. In contrast, Federal Government jurisdiction under the Canadian Constitution in the area of solid and, packaging waste management is, in many areas unclear.

3.2.1 Areas Where Federal Action and Leadership Are Not Disputed

To date, **federal regulation affecting packaging has generally corresponded to its power to protect the health and safety of Canadians.** Thus, for example, substances determined to be toxic by virtue of having immediate or long term effects on the environment have been controlled/banned under the Canadian

Environmental Protection Act. In addition, regulations could be developed to require warning on packages containing material which is toxic. The Food and Drug Act establishes the type and standard of packaging which is to be used for food and drugs and other products which could have harmful health-related effects. The Canada Agricultural Products Act regulates the types of containers to be used and associated labelling requirements for a variety of fresh products, such as fruits and vegetables. Similarly, the Consumer Packaging and Labelling Act has been developed and applied to domestic and import products. Among other things:

- it prescribes label requirements for prepackaged products sold at the retail level; and

- where the Governor in Council determines that there is an undue proliferation of package sizes or shapes that may confuse or mislead consumers with respect to the quantity of product contained, he may make regulations that limit the sizes and shapes of containers in which that product may be sold.

Self-regulatory initiatives defining internal federal government department and agency waste management practices, such as procurement and recycling practices, are also clearly within the federal domain.

There may also be a number of **"indirect" opportunities for federal action** relating to requirements indirectly affecting packaging, such as freight rates and national safety standards. With respect to the former, preferential rates might, for example, be given to reusable or recyclable and recycled, as compared to virgin materials and packages. Presently legislated national safety standards relating to packaging, if reviewed in light of technological advancements, may reveal areas where regulations regarding the thickness, content or other characteristics of packaging can be relaxed, thus contributing to source reduction.

There are **non-regulatory measures** relating to packaging waste and solid waste in general which are available to the Federal Government and which relate to taxation. Incentives of various types (eg. accelerated capital cost allowance and investment tax credits for 3R's equipment) to encourage investment in recycling and other equipment/operations could be offered. In this regard, a study examining federal fiscal and tax activities relating to recycling[1] found, among others, that:

> "It is seen as anomalous by some that the incentives provided for exploration and development of resources exceed those provided for recycling...Higher priority might be placed on tax incentives

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[1] Woods Gordon. A report addressing environmental implications of the fiscal system, reviewed in the Discussion Paper prepared by the Canadian Institute for Environmental law and Policy. (June, 1989).

which increase the demand for recycled materials..." (pp.41,53)

In addition, activities related to data collection in the area of packaging and solid waste, the carrying out of **research and development** and the promotion of environmental technologies domestically and abroad are important venues for federal participation. (Industry Science and Technology Canada [ISTC] has embarked on a two year data assembly and analysis programme addressing environmental technologies.)

The recently announced (June, 1989) Environmental Partners Fund Program provides 50%/505 cost sharing between Environment Canada and local organisations or individuals attempting to improve the environment. Blue box recycling programmes and paper recycling are among those initiatives which are identified as "likely to receive funding".

Educational efforts which inform consumers regarding the three "R's", the types of purchasing choices available as regards packaging and how these influence the consequences of the solid waste management issue also represent potentially important opportunities for federal action. The Federal Government has already entered this area with the introduction of its Environmental Choice Programme, which is intended to help consumers identify those products which diminish the burden on the environment. an "ecologo" has been developed for use on packaging which, for example, is made of recycled or recyclable materials and/or which minimize the use of environmentally hazardous materials.[2]

3.2.2 Areas Where Federal Potential for Action is Inconclusive or Problematic

Over the course of this study and work by the National Task Force on Packaging, a number of areas for potential federal regulatory action and leadership have been put forward for consideration. These include the following:

- Regulation and enforcement of any packaging standards and requirements recommended for inclusion in the National Packaging Protocol in relation to:
  - domestic packaging industry users and/or producers;

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[2] Difficulties relating to the determination and definition of what is/is not "recyclable" or "environmentally friendly" will have to be resolved, if this programme is to be effective.

- international packaging industries importing packaging and/or packaged products into Canada.

- Ability of the Federal Government to regulate:

  - national targets for packaging minimization through one or more of the three R's;

  - national packaging standards regarding, for example, product design standards, minimum content requirements, recyclability of materials, etc.

- Implications of the Free Trade Agreement for enforcement on importers; (This issue is addressed in another Background Report to the National Packaging Protocol, prepared by the Coopers and Lybrand Consulting Group)

Brief and general background to the Canadian Constitution provides a context for examining the jurisdictional question. Under the Constitution, the Federal and provincial Governments are given a number of "heads of power" or areas of jurisdiction which govern the type of legislation which may be enacted by each of these levels of government. There is no head of power for "the environment". Consequently, one must look at other heads of power to resolve jurisdictional questions. Legislation under the Trade and Commerce "head" has generally related to interprovincial and international trade and to the national economy, while the Peace, Order and Good Government "head" appears to be more of a "catch-all" for issues of national concern and emergency.

To date responsibility in the solid waste management area has, with the exception of those activities described in 3.1.1 above, fallen by and large, to the Provinces. It is they who have decided on the approach to waste disposal, to the development of targets and to the funding of waste disposal and management-related initiatives. (As Section 3.3 of this Section will show, there are good reasons for the predominance of provincial action in this area.)

It would appear that the federal jurisdiction to regulate such areas listed earlier (i.e. relating to targets and standards) is unclear and that a detailed proposal setting out the specific "metes and bounds" of the proposed regulatory initiative must be provided and then examined in light of existing case law. If attempted, without solid jurisdictional footing, such regulatory activities could be challenged in the courts, resulting at the very least, in delay. The intent here is not to be unduly pessimistic, but to provide a sense of the complexity of the solid waste management issue as it relates to federal government jurisdiction.

3.3 Provincial Approaches

Appendix C contains a tabular presentation of packaging-related legislation and programmes being undertaken in each of the Provinces. These have been developed, based on discussions with provincial representatives and on a collection of secondary source materials assembled over the course of this study.

The purpose of this section is to review the patterns and conclusions which can be derived from the experience of the ten provincial jurisdictions, and to assess their potential implications for development of a National Packaging Protocol.

3.3.1 A Diversity of Approaches

Motivations and Targets

Not surprisingly, a country as diverse as Canada is characterized by a variety of different issues and responses related to solid waste management in general, and to packaging.

While some Provinces (eg. the Maritime Provinces and Newfoundland, Alberta, Saskatchewan, Manitoba, New Brunswick) and the Northwest Territories (NWT) have been induced to take action primarily as a result of the concern about **litter**, rising **costs of disposal, rapidly depleting landfill capacity and/or concern for the environment** have, in large part, crystallized concern over waste generation in the highly populated areas of Ontario and Quebec.

Provincial **targets** for waste minimization have been set by some Provinces (eg. Ontario 25% by 1992 and 50% by 2000; Manitoba - 50% by 2000; Quebec - 50% in volume by 2000; Nova Scotia - 85,000 tonnes diversion by 1993), but not by others. Provincial recycling rate targets have also been set by some (eg. Nova Scotia - 70% of Province to participate in multi-material programme by 1993; Quebec - 80% participation of households in "blue box" programme within seven years).

Some provinces appear to have adopted a more **voluntary approach** to waste minimization (eg. Alberta, Newfoundland, New Brunswick and Manitoba until very recently), others have favoured a more active **use of regulation** - or the threat of regulation to direct their solid waste management efforts. (eg. British Columbia, Ontario and Quebec).

Reduction, Re-use and Recycling

Variation across the country also exists in terms of **approaches to and emphasis on reduction, re-use and recycling.** With regard to reduction, relatively little activity has occurred, although Ontario has developed its "municipal 4 R's programme" which provides grants up to 50% of costs for projects reducing consumer waste, along with an "industrial 4R's programme" which provides comparable support to industry initiatives, including reduction.

Re-use initiatives have generally manifest themselves through deposit systems aimed at the soft drink industry. Deposit systems are particularly strong in B.C. which was the first jurisdiction in North America to implement such a system, in P.E.I. where only glass refillable soft drink containers are permitted, and in Saskatchewan, where an environmental charge is levied against non-refillables.

In some provinces, deposit systems have been integrated with recycling objectives in relatively innovative ways. The Ontario Multi-Material Recycling Incorporated (OMMRI), based on our review of activities in North America and Europe represents, without question, one of the most unique examples of joint government/industry cooperation in the waste and packaging minimization area. Arising out of extensive soft drink container regulations to the Environmental Protection Act (1985),[3] OMMRI was initiated through the efforts of the Ontario soft drink industry, and responded to the dictate that non-refillables would be exempt from deposits, if a 50% recycling rate for such non-refillables was achieved by December, 1988. Under this same arrangement, a 40% market share must be maintained for refillables. However, if the 50% recycling rate were to be increased to 60%, then the market share level for refillables could be reduced to 30%, and so on.

Concurrently, an extensive curbside recycling programme was implemented through OMMRI and funded equally by the Province, municipalities and OMMRI. Negotiations have recently been concluded to extend OMMRI beyond its current glass, paper, PET plastic and cans to other materials.

In Manitoba, the private sector has also been largely responsible for developing a recycling system, in return for relief from deposits. The recently announced Quebec voluntary accord between government and the private sector will see $100 million in private sector funds allocated over a seven year period to "blue box"

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[3] Regulation 622/85 has the effect, among others, of imposing deposits or banning the sale of all non-refillable containers which fail to achieve a certain recycling rate.

type programmes, to the support of recycling centres and to research and development, in order to achieve provincial waste minimization targets. The "4 R's Act in Nova Scotia will also empower the province to establish cost-sharing measures with industry for recycling, whereby 70% of the cost of the first 4 years of the programme will be financed by the private sector.

Other Areas of Diverse Approaches

While many of the provinces accept **incineration** as a disposal option, Ontario has taken a decisive stance against it.

As briefly touched on above, **funding** of waste management efforts has been generated through a variety of means. While in some cases, revenues for disposal, recycling and other waste minimization initiatives come from general revenues and tipping fees (eg. British Columbia, Alberta, New Brunswick, P.E.I., and Newfoundland), some provinces have, in addition to these two tools, developed other fund-raising mechanisms (Ontario - the private-sector OMMRI[4] example; Quebec - its recent "Fond Quebecois d'Implantation de la Collecte Selective Quebec, again sourced by the private sector; Nova Scotia - its "Resource Recovery Fund" derived from public and private sector sources; Saskatchewan - its Environmental charge on non-refillables).

Finally, the distribution of responsibility for developing approaches to waste management has been assumed in some cases almost entirely by the provincial government (eg. Newfoundland, P.E.I., Nova Scotia Saskatchewan and Manitoba) and in some cases, more evenly between provincial and municipal jurisdictions. (e.g., British Columbia)

3.3.2 Common Elements

There are some characteristics regarding solid and packaging waste management which are shared by the Provinces. Perhaps most importantly, despite diverse motivations underlying provincial waste minimization initiatives, there is a common will, as expressed through the CCME call for a national packaging protocol, for a concerted and coordinated approach to packaging waste diversion.

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[4] Ontario Multi-Material Recycling Incorporated (OMMRI) is discussed in more depth later in this section.

Secondly, packaging-related initiatives tend to have been centred on the soft drink/beverage container industry, to date. It is also interesting to note that no Province has as yet, developed a comprehensive provincial recycling or solid waste management strategy, to guide overall public and private sector efforts. Having reviewed the regulatory experience of the United States and Canada we proceed to a brief assessment of the European regulatory treatment of the area of solid and packaging waste management, prior to examining the lessons which the collective experience of these jurisdictions brings to the development of a National Packaging Policy.

4.0 THE EUROPEAN AND JAPANESE EXPERIENCE

It should be noted that, because of cultural, demographic and other distinctly different conditions, these jurisdictions do not appear to contribute substantive lessons to the development of the National Packaging Protocol.

4.1 European Packaging and Solid Waste Initiatives

4.1.1 Introduction

As with the U.S. and Canadian examples, treatment of packaging waste from a regulatory perspective varies considerably across Europe. Differences relating, for example, to the acceptability of incineration, to the emphasis on reuse and recycling and the extent of concern and focus on packaging are considerable.

The European example provides some interesting approaches to the packaging issue. Historical and cultural differences between Europe and North America and the much higher population densities found in the European countries suggest, however, that caution should be taking in assessing the relevance of Europe's approaches for Canada's packaging reduction efforts.

4.1.2 European Community (EC)

The European Commission has been working on developing measures to coordinate the waste reduction activities of member countries in light of the approaching 1992 deadline for more complete economic integration. A proposal for a Directive on Waste Plastics is already in the course of preparation at the Commission, in line with the current trend of legislating on particular materials rather than on containers for particular products. An EC directive on liquid containers for human consumption has also been issued (85/339). The purpose of this directive is:

> "To provide for a series of measures relating to the production, marketing, use, recycling and refilling of containers of liquids for human consumption and to the disposal of used containers, in order to reduce the impact of the latter on the environment and to encourage a reduction in the consumption of energy and raw materials in this field."
>
> "Member states shall, either by legislative or administrative means or by voluntary agreements, take measures designed inter alia:

a) to develop consumer education in the advantages of using refillable containers, recycling containers and eliminating used containers from household waste;

b) to facilitate the refilling and/or recycling of containers of liquids for human consumption;

c) as regards non-refillable containers:

- to promote the selective collection of containers,
- to develop effective processes for retrieving containers from household waste,
- to extend the outlets for materials recovered from containers,
- in so far as this is economically feasible;

d) to encourage the technical development and placing on the market of new types of containers, with the aim in particular of reducing the consumption of raw materials, facilitating recycling and the final disposal of container waste and achieving overall energy saving;

e) to maintain and, where possible, increase the proportion of refilled and/or recycled containers and/or to decrease the proportion of non-recycled or non-refillable containers where the conditions of industrial activity and the market so permit."

4.1.3 Denmark

Environmental protection has a strong standing in this country. The national Agency of Environmental Protection provides financial assistance to firms engaged in development of new reuse technologies, while its Division on Waste and Reuse is responsible for recycling programmes. The Minister has the power to ban or limit certain materials, to require certain levels of recycled materials and to impose refundable deposits.[1]

Denmark's Recycling Act has led to establishment of neighbourhood collection stations to which recyclable and burnable wastes are delivered. A charge equivalent to $8/tonne (Cdn.) is levied on waste for incineration or landfilling to encourage reduction and recycling.

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[1] Wirka, J. Wrapped in Plastics. Environmental Action Foundation. (Washington, Aug 1988) p. 114.

A requirements that all beverages be in glass returnable containers was challenged at the high court of the European High Commission as a non-tariff trade barrier.

In September 1988, the European Court of Justice ruled that Denmark is entitled to maintain its compulsory returnable system for beer and carbonated soft drink containers despite the restrictions on the free circulation of goods that this entails.

4.1.4 United Kingdom

According to one source, "despite the general belief that recycling and resource recovery are in the long-term interest, the UK lags behind its European neighbours in actual program implementation."[2] A lack of central government initiative is attributed as the reason.

As yet, there is little pressure on landfill capacity and with this viewed as a cheap disposal option, recycling is only undertaken if there is apparent economic benefit.

4.1.5 West Germany

In 1986, amendments to the Waste Act were passed, encouraging:

- avoidance of waste;
- reduction of waste;
- utilization of waste materials;
- environmentally safe disposal of residual materials that could not be further recycled.

Two types of recyclables were identified, namely:

- materials suitable for reuse as feedstock to production (paper, glass, plastic, building materials, compost);
- energy by-products (utilization of heat and electricity).

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[2] Alberta Economic Development and Trade. An Economics Study of the Recycling Industry in Alberta. (October 1988) p. 4.6.

Since then, in January of 1990 the Government issued a document further setting out its principles relating to waste management.[3] The document states that as regards packaging, "the Federal Government is pursuing the following aims for all materials used (glass, cardboard, paper, wood, metals, plastics):

- Volume and weight of packaging have to be reduced to the absolutely necessary degree;
- Packaging for filling goods should allow reuse;
- In case reuse is not possible, materials have to be used, which are harmless to the environment.

The document states that beginning in 1990, plastic tubs, tins, buckets, barrels, bottles, cans, sacks and carrier bags (plastic drinks packaging apparently excluded) must be marked with the name of the respective kind of plastic, by imprint, moulding or sticker. In addition, the number of kinds of plastic has to be limited to the "absolutely necessary degree".

Paper and glass recycling have shown success. An estimated 40% of total glass container sales is recycled material.[4] In addition, one major soft drink producer was refused permission to use PET and responded by developing a fully returnable PET. Efforts to standardize packaging have led to the requirement that all wine bottles be in 3/4 litre bottles.

The Federal German Government has also recently announced market share targets to be achieved by July 1991. These set minimum market shares not for individual manufacturers but for product sectors as a whole. The bottling and packaging industries will not be represented on the coordinating committee to be set up to compile the data and evaluate progress.

A paragraph added, in 1988, to the waste law empowers the federal government to ban certain packages, to impose forced recycling of packages and to require deposits on packages, etc. without a hearing in parliament. An example of this pertains to the federal government's recent adoption of measures which will severely restrict beverage manufacturers ability to market products in certain types of containers which have proven to be very popular in other countries.

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3 "Aims of the Federal Government to avoid, reduce or recycle waste of packaging materials made of plastics for food and semi-luxury foods as well as consumer goods". Provided to RSMI by Environment and Plastics Institute of Canada (EPIC), Feb. 28/1990.

4 Ibid. p. 4.9

4.1.6 Netherlands

In the Netherlands, the Minister of the Environment has authority to ban any product that adds unduly to the amount of waste, is difficult to dispose of, frequently littered or is not reusable.

These regulatory powers notwithstanding, voluntary accords between government and industry have been established and hold that the total quantity of waste from beverage containers should not exceed 1984 levels and that recycling should be promoted. Energy recycling is also recognized as a form of reuse. Based on a recent visit to this country, there appears to be very little emphasis on recycling, or public concern for the waste issue.

4.1.7 Other Jurisdictions

At this time, additional information relating to initiatives in such countries as Austria and Italy is pending. It is known that Austria has banned all non-recyclable material in packaging, beginning in 1992. Producers may continue to use materials not collected and recycled in existing programs, only if they establish and pay for new recycling programs for those materials.

A number of Italian cities (including Venice, Florence and Bologna) have reportedly banned the sale of foodstuffs in plastic containers. In addition, a Decree issued in December 1984 established that, from January, 1991, all paper and cardboard wrappers, bags, etc. must be manufactured from regenerated fibres. Also from this same date, packaging of various types (to be established at a subsequent date) must be "biodegradable". However, the ability to develop effective, implementable legislation remains to be seen.

4.2 Japan

Cultural and historical differences as well as the high population densities and its relatively small land area make Japan's experience interesting, but again, one which is considerably different than that of North America. A heavy dependence on imports has also forced it to take extensive and at times, innovative energy conservation and recovery measures.

Prior to reviewing the Japanese approach, some definitional differences are important to note. In Japan, "municipal solid waste" excludes industrial waste and is material that, after recycling, require treatment and disposal by the municipality. Moreover, recycled materials are not considered as waste and are therefore excluded from waste data.

Japan's national government has taken a strong leadership role in the area of solid waste management, by establishing an overall strategy and by providing subsidies and regulations which guide the system.

Utilizing western definitions, Japan recycles an estimated 50% of its waste, incinerates some 34% and landfills 15%.[5] The problems which it faces, however, are:

- an increasing problem in siting waste disposal facilities;
- concern regarding incinerator-related air emissions and wastewater pollution;
- increasing waste management costs.

Among some of the more interesting aspects of the Japanese waste management issue are the following:

- After recycling, only half as much waste per person is generated in Japan as in the U.S. [6]

- Among factors leading to high recycling rates is an extensive public education program.

- Plastics are considered as difficult to dispose of and have received special handling procedures, to avoid its incineration. Concern about the increasing use of plastics has resulted in actions to reduce their use.

- Laws require that specialized training of workers in incineration and recycling facilities occur.

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5 Hershkowitz, A. and Salerni, E. Garbage Management in Japan: Leading the Way. (INFORM, 1987) p.ix.

6 Ibid. p. 5.

- "Regulatory standards tend to be based on maximum prevention of pollution even when health effects data are uncertain or unavailable. In practice, regulations tend to be based on the government's assessment of how well technology can perform and the environment concerns of the local population."[7] It appears that most regulations relate to concerns regarding pollution from incineration and landfills.

Although the European and Japanese examples are interesting, they do not contribute significantly to the development of the National Packaging Protocol because of higher population densities and different cultural realities. The United States offers a better example as it is similar to Canada, culturally and geographically.

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[7] Ibid. p. 8.

5.0 THE LESSONS LEARNED

5.1 A Context for Action

Canada appears to have a major opportunity to avoid the fragmentation and confrontational environment currently dominating the U.S. experience with solid waste management. The lack of national leadership and the rapid acceleration of waste generation in the U.S., have led to fragmented and often reactionary state and municipal-level measures which have had the effect, in many cases, of pitting government and industry against each other. Regulation in the area of solid and packaging waste management has gained a somewhat bad (at times deserved) reputation.

Despite these problems, regulation - or at least the threat of regulation as a tool for achieving the aims of the CCME - cannot be ignored. The experience of Canadian and U.S. jurisdictions reveals a wide range of actions which can be considered in achieving waste reduction targets. However, as the preceding analyses have demonstrated, **the effectiveness of regulation will be dependent, above all, on its credibility and enforceability**. Experience, particularly in the U.S., shows that regulation in poorly defined areas - in areas which suffer from a lack of information and which are surrounded by debate - will either meet with litigation and/or be rendered ineffectual.

The question surrounding Canada's federal government jurisdiction in the area of solid and packaging waste management need not get in the way of a national approach to the issue. While the American example is indicative of the price to be paid as a result of a federal inactivity, it also provides an example, through CONEG, of cooperation of nine very different state-level jurisdictions (at least somewhat comparable to Canada's ten provinces) with non-regulatory support from the national level, which could lead to common state regulatory and non-regulatory actions.

Targets for the achievement of overall waste minimization are, by their nature, difficult to regulate and have, instead, been established in many U.S. and some Canadian jurisdictions as policies to guide action.

Targets for the achievement of specific, discrete objectives, on the other hand, have become the subject of regulation. Thus, within the context of a policy to reduce all waste by 50% by the year 2000, the aim of achieving 50% recycling of specific product(s) by a specified year is measurable and amenable to regulation.

Enforcement through regulation of targets aimed at a specific sector or sectors of industry can only be credible and effective, if such targets have been set based on substantive economic analyses and if a reasonable time period to comply is provided. Determination of what can be considered as "reasonable"

targets and time periods would, ideally, be established through multi-stakeholder collaboration. It is important to note that the federal government cannot, under the Canadian Constitution, regulate a particular industry.

5.2 Recommendations for the National Packaging Protocol

The National Packaging Protocol must be developed in recognition of the fact that **there are geographic and economic conditions in each province which are quite legitimately producing different responses to solid waste management.** Over the past year, B.C., Alberta, Manitoba, Ontario, Quebec and Nova Scotia have initiated policy review processes and/or adopted significant new directions. It is difficult to imagine that the considerable effort and research which have led to these directions are likely to be easily altered to accommodate national level packaging recommendations.

Demographic, geographic and economic differences among the provinces make it **unrealistic to apply national level targets in the area of reduction, re-use and recycling, if they are to be applied uniformly across the board.** Thus, for example, to expect each and every province to achieve the same recycling rate is impractical, as in some provinces, recycling is not economically viable by virtue of low population bases, low volumes of collected materials and/or high transportation costs.

Despite the above arguments for respecting regional realities, the fragmentation and lack of coordination experienced in the United States have shown that costs are borne not only by the private sector which must adapt to the differing demands of state and municipal jurisdictions, but by governments which waste resources by adopting haphazard approaches and by the consumer who, as taxpayer, ultimately pays. Thus, **the Protocol should look to areas where interests are shared**, that is, where interests go beyond the provincial domain and/or where the well being of all requires common standards and approaches. Consideration should be given, among others, to:

- **Waste generation audits** - Undertaking by government and industry of waste audits which identify areas of inefficiency and which results in the setting of minimization targets and strategies for their achievement;

- **Procurement practices** - Adoption by governments at all levels of procurement practices as a means both of demonstrating leadership in waste minimization efforts and of expanding the market for recycled materials.

- **Protection of the environment** - Definition of what are/are not environmentally sensitive packages (eg. addressing the issues of "degradability" and recyclability) on a national basis would help to reduce misinformation and consumer confusion;

- **Development of a national labelling system** - Once common definitions have been developed, a simple labelling system which conveys a message to the consumer regarding the merit of the package from a waste minimization and 3R's perspective, would promote informed purchasing choices. (Under the Canadian Environmental Protection Act, guidelines and codes of practice can be promulgated, but a legislative approach would be on weak ground.)

- **Reduction, i.e. the elimination of unnecessary packaging** - While re-use and recycling have received attention in most provinces, efforts, incentives and requirements to reduce packaging are very limited and represent an area for coordinated national action.

- **Extension of minimization efforts** beyond the soft drink/beverage container industry - The wide variety of non-beverage products with waste minimization potential should receive attention;

- **Research and development into new 3 R's technologies** and other related issues - These could be launched by the provinces to support national packaging waste minimization.

- **Encouragement of investment in 3R's approaches** - The magnitude of investment required to extend recycling beyond its existing limits is significant and could be encouraged through federal and provincial tax breaks and incentives. The previously cited Woods Gordon report, in this regard, prescribes the following:

> "...current tax incentives for R&D equipment purchases and others would apply to the recycling industry. This issue is whether enriching those incentives would be effective in encouraging a faster development of the industry. It is our preliminary assessment that market conditions will have more impact on recycling than tax incentives which address increasing the supply of recycled materials. Higher priority might be placed on tax incentives which increase the demand for recycled materials." (p.51)

- **Exploration of parallel initiatives to the OMMRI model** - where achievement of desired 3Rs targets by industry is rewarded, or, conversely, where failure to meet such targets has a cost attached to it, commensurate with disposal/waste handling costs. It should be noted, that the OMMRI model was created through public/private sector collaboration, and that targets and rewards/costs would, ideally, be worked out jointly.

- Development of **education programmes** which support consumers to make purchasing choices that promote waste and packaging minimization targets and that provide a consistent message across Canada.

- **Provincial solid waste/packaging management plans** - Development of strategies for achieving waste/packaging minimization through reduction, re-use and recycling which are consistent with national level Protocol initiatives, targets and standards.

Difficulties in enforcing existing regulations (eg. compliance of U.S.-based importers with Canadian laws relating to labelling) underscore the need to ensure that any system of **enforcement for new legislation is simple and cost-efficient.** While one way to accomplish this simplicity would be to place the burden of proof of compliance on the party to the legislation, there may be problems under the Canadian Charter of Rights and Freedoms, if the burden of proof is placed on the "regulatee". In any event, it will be imperative to devote sufficient resources to support effective enforcement.

A final comment relating to enforcement across Canada's borders is of critical importance to the implementation of a national level protocol. To the extent that Canadian industry may be expected to comply with standards which are higher than those practised abroad, **extraordinary effort must be exerted** by both provincial and federal jurisdictions **to keep Canadian industry "on a level playing field"** with its foreign competitors. The "trade and commerce" head of power of the federal government should be used to ensure fair competition. In addition, strong lobbying effort with Canada's trading partners should be undertaken by government to promote adoption of comparable standards to those established by the Protocol.

APPENDIX A

PRIMARY AND SECONDARY SOURCES

CONTACTS LIST

GOVERNMENT	CONTACT NAME
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Connecticut Department of Environmental Protection Bureau of Waste Management - Recycling	Anne Gobin
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Georgia House of Representatives	Arline Chapman
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Mississippi Department of Natural Resources Bureau of Pollution Control	Mark Williams
Montana Department of Health Solid and Hazardous Waste Bureau	Jim Laiter
North Carolina Solid Waste Section	Dexter Mathew
North Dakota Department of Health Solid Waste Management	Steve Tillotson
New Hampshire House of Representatives	Arnie Arneson
New Jersey Department of the Environment	Mary Beth Petruzzi

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South Carolina Bureau of Solid Waste Management	Dewey Pearson
South Dakota Department of Environment Solid Waste Management	Dave Doll
Texas Department of Health Division of Solid Waste	Glendon Eppler
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Nova Scotia Environment	Dennis Ryan
Newfoundland Department of Environment and Lands	Gerry Brown
Prince Edward Island Ministry of Environment	Gerry Stewart
Statistics Canada	Bruce Mitchell Dr. Tony Friend
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NON-GOVERNMENTAL ORGANIZATIONS

Illinois Citizens for a Better Environment	Kevin Greene
MassPIRG	Amy Perry
Environmental Advocate OSPIRG	Quincy Sugarman
Consumers Association of Canada	Ruth Lotzkor
Grocery Products Manufacturers of Canada	Shelagh Kerr
Packaging Association of Canada	Alan Robinson
Federation of Canadian Municipalities Chairman Environmental Issues	Richard Gilbert
Canadian Council of Grocery Distributors	Tim Carter

Canadian Environmental Law Association	Steven Shrybman
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Canadian Environmental Network	Kara Symbolic
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APPENDIX B

U.S. LEGISLATION

REVIEW OF PACKAGING RELATED INITIATIVES IN SELECTED STATES				
STATE	**INITIATIVE**	**TYPE OF INITIATIVE**	**STATUS**	**DESCRIPTION**
CA	Legislation	Labelling	Enacted	- Requires all rigid plastic containers sold as of 1992 to have label indicating composition.
		Recycling	Enacted	- Requires recycling of aluminum and glass beverage containers. Redemption rate is $.01 to go to Recycling Fund to $.03 if 65% recycling rate not reached by 1991.
		Deposit legislation	Enacted	- Mandatory beverage container deposit laws in place;
		A.B. 2199/Bates	Clarify	- Requires local gov. to establish plastics recycling plans, including schedule/goals; - Requires est. of per container "plastics recycling & mitigation fee" on distributors of plastic disposable consumer items. If passed it is to become effective Oct./1991
		Bans	June/1988	- Ordinance prohibits take-out & fast food packaging with CFC's.; - Council also considering banning all foam packaging;
	Other:	Berkeley "Clean City Programme" & Precycling	Feb.1/89 start	- Programme is multi-facetted, including provision of standardised degradable bags for special refuse pickup; weekly curbside pick up service of aluminum, glass and newspapers; - "Precycle" programme advocates "making intelligent environmentally sound decisions at the store" and is a well publicized campaign to encourage grassroots demand for reduced and more environmentally friendly packaging.
CT	Legislation:	Act Mandating Recycling in Municipalities & Concerning Source Reduction Planning;	July/1987;	- Dept. of Env. Protection must prepare report defining means of recycling at least 25% of waste stream by 1991. - Municipalities group together to form recycling regions, each with an "Intermediate Recycling Centre";
		Public Act #89-385	Enacted	- Gives States Dept. of Environmental Protection authority to reduce volume and weight of packaging material; - By October 1991 DEP must set standards to reduce volume or weight of disposable packaging material, enhance recyclability and increase proportion of recycled resources used in manufacture of packaging material.

REVIEW OF PACKAGING RELATED INITIATIVES IN SELECTED STATES				
STATE	**INITIATIVE**	**TYPE OF INITIATIVE**	**STATUS**	**DESCRIPTION**
		Act Promoting Recycling and Concerning Packaging;	May/1988;	- After 1991, none of designated materials will be accepted to landfills or incinerators; - Packaging Task Force established to study means of reducing packaging; - Municipal solid waste (MSW) Recycling Advisory Board created to advise on implementation of recycling programme.
		H.B. 6641, Sec.(2 & 3);	June/1989;	- Bill requires regulations for: reducing volume or weight of disposable packaging; enhancing recyclability of disposable packaging; labelling to reflect recyclability/toxicity/recycled content; - Requires state source reduction plan; stores to offer both plastic and paper bags.
		S.B.5885 Sec (13&14);	May/1988	- Bans sale of any beverage container composed of one or more plastics if the basic structure also contains aluminum or steel.
		Labelling	N/A	- As of Jan/1990 requires any plastic bottle sold to have identification code indicating plastic material within structure
		Deposit legislation;	Enacted	- Mandatory beverage container deposit laws in place;
	Funding:	Act Mandating Recycling in Municipalities & Concerning Source Reduction Planning;	July/1987;	- Act establishes Municipal SW Trust Fund; no provision is made for on-going funding sources;
	Incentives:	Taxes	Under consider-ation	- Would impose $.05 tax on packaging and disposable containers, with credits for recyclable packaging ($.025); Revenues to be returned to municip. for recycling programmes;
	Other:	State Procurement Programme;	May/1988:	- Requires plan to raise state purchase of recycled goods and to allow price preference of 10%.
FL	**Legislation:**	Solid Waste Act;	Oct/1988;	- All counties/cities of over 50,000 must establish recycling programmes; (DOE may reduce recycling goal for a community if it is proven to have adverse effect on financial obligations to a waste-to-energy facility);

REVIEW OF PACKAGING RELATED INITIATIVES IN SELECTED STATES				
STATE	**INITIATIVE**	**TYPE OF INITIATIVE**	**STATUS**	**DESCRIPTION**
		Executive Order;	May/1988;	- All state agencies and State University instructed to implement recycling programme;
		Ban (S - 1192/Sec.15)	Signed June/88 but pends approval of FDA;	- Ban on polystyrene foam or plastic-coated paper food packaging unless it is composed of material biodegradable within 12 mos.
		Labelling	N/A;	- Requires that as of July, 1990, all plastic containers must have molded label indicating plastic resin used;
	Funding:	Solid Waste Management Trust Fund;	N/A	- Fund for recycling, special wastes and others programmes; $ come from "Oil Overcharge Settlement Fund"; in future, an advance disposal fee on containers contemplated;
	Incentives:	Environmental Regulation	N/A	- $Multi-million available for grants to communities for recycling programmes (eg. $750,000 for recycling awards for communities and same for grants to businesses using innovative recycling technologies;)
	Disincentives:	Advance Disposal Fee on Containers;	June/1988	- If by 1992 containers are not being recycled at sustained rate of 50%, an "Advance Disposal Fee" (ADF) of $.01/container charged by retailers, with proceeds going to "Container Recycling Trust Fund". ADF to rise to $.02 by 1995 if 50% target not achieved;
	Other:	Market development activities;	N/A	- Dept. of Commerce directed to assist recycling industry by identifying present & potential markets and preparing a report by Sept.1989, assessing status of recycling industry.
ME	Legislation	Beverage Containers	July, 1989	- Extends existing deposit legislation to include wine, coolers, juice and water, of sizes up to 1 gal. Deposits to be > $.15. If return rate for wine/liquor bottles does not reach 60% by 1992, deposit will increase to $.25 or more on July 1, 1992. - Bans "plastic-aluminum can" and "brick-pak" juice containers; - Increases handling fee paid by distributors to retailers to $.03/container;
		Bans	Apr/1988	- Sale of polystyrene foam manufactured with CFC's banned;
	Targets:	Recycling		- 50% state recycling goal;

REVIEW OF PACKAGING RELATED INITIATIVES IN SELECTED STATES				
STATE	**INITIATIVE**	**TYPE OF INITIATIVE**	**STATUS**	**DESCRIPTION**
MA	Legislation:	Solid Waste Act	1987	- "Regional Recycling Program is "centrepiece" and calls for 5 regions each having a "materials recovery facility (MRF). State pays for MRF's, provides grants for curbside collection, educational programmes and marketing strategies and encourages eventual creation of statewide marketing cooperative among MRF's. - In exchange, cities must pass recycling ordinances requiring source separation and must manage curbside programmes;
		Deposit legislation	Enacted	- Mandatory beverage container deposit laws in place;
	Incentives:	Target		- 25% recycling by 1995;
	Funding:	Solid Waste Law	1987	- Act called for a bond issue totalling $45 million; no on-going source of funding established;
	Incentives:	Tax	Under consider-ation;	- Act would impose $.03 fee on all containers over 2 cu. inches solid, exempting alcoholic beverages, take-out food, packages of >50% recycled materials or products sold out-of-state;
	Other:	State Procurement Programme	1988	- Program bans state purchase of disposable, non-recycled polystyrene products, by 1989 and calls for a Recycled Materials Procurement Plan";
MN	Legislation:	Waste Reduction Act of 1988 (Sec. 0/Subdiv. 1)	1988	- Full Bill did not pass; - Ban on plastic can did;
		County-related legislation		- Each county empowered to arrive at plan for waste management and to control flow of waste; after 1990, only materials which have been through processing facility, such as ash, non-combustible or processing material can go to landfill.
		Minneapolis Ban on Plastic non-recyclable food packaging;	1989	- Ordinance takes effect in 1990; - Food industry is taking issue to court;
NJ	Legislation:	Source Separation & Recycling Act	April/1987	- Most responsibility is with counties; Under Act, counties must prepare Plan addressing at least 3 recyclable materials; Munip. must provide collection system and require waste generators to source separate designated recyclables;

REVIEW OF PACKAGING RELATED INITIATIVES IN SELECTED STATES				
STATE	**INITIATIVE**	**TYPE OF INITIATIVE**	**STATUS**	**DESCRIPTION**
		S. 2460/Gov. Kean;	Under consider-ation;	- Would place $.02 fee on containers over 6 oz. for retail or take-out which have not achieved recycling rate equal to that of glass or aluminum.(exempts containers made from min. 50% recycled material, reusables, biodegradable containers.) - Funds would be used to offset rising disposal costs;
		"Variable Waste Disposal Charges"	Under consider-ation;	- VWD's are systems where variable rather that flat rate fee for collection or disposal is charged, based on no. of garbage cans/containers used by customers or no. of bags collected, or frequency of collection;
		Ban	Feb/89	- Newark has banned use and sale of polystyrene and polyvinyl chloride (affecting plastic cups); It has also banned use of plastic packaging which is not degradable. Non-compliance leads to fines.
	Incentives:	Tax credits;	April/1987	-Industries buying new recycling equipment receive 50% tax credit against State Corporate Business Tax;
	Targets:			- 15% by end of Year 1; 25% by end of Year 2;
	Funding:	Waste facility surcharge:	N/A	- Recycling fund created through $1.50 per ton solid waste facility surcharge; (Munip. receive a $7.8 million up-front appropriation to be paid back from the Recycling Fund); - Fund allocated to offsetting municipal collection/processing/marketing costs; low interest loans for R&D; education and publicity and State admin. costs.
	Other:	State Procurement Programme	July/1987	- Priority purchasing must be given to products with highest post-consumer material content; - DOT to review specifications for highway construction to encourage use of recycled materials;
NY	**Legislation:**	Solid Waste Management Act;	Enacted 1988;	- Municipalities must have begun source separation & recycling programmes by 1992; - Municipalities requiring new facilities for disposal will first have to implement recycling programmes; - Establishes commercial and industrial audit programme to help businesses identify and evaluate potential to reduce, reuse or recycle their waste; - Requires Dept. of Env. Conservation to develop and adopt recycling emblem which would indicate whether product is reusable, recyclable or made from recycled material

REVIEW OF PACKAGING RELATED INITIATIVES IN SELECTED STATES				
STATE	**INITIATIVE**	**TYPE OF INITIATIVE**	**STATUS**	**DESCRIPTION**
		New York Finance Law (Sec 177)	1986 (amendment)	- Procurement programme offers 10% price preference for recycled paper with at least 40% post-consumer waste;
		Ban	July/1989 but currently challenged in court;	- Suffolk County prohibition on non-biodegradable plastic food packaging,plastic bags and utensils; - bans polystyrene and polyvinyl chloride and requires that fast food must be served in biodegradable packaging;
	Incentives:	Taxes	Under consider-ation;	- Would oblige manufacturers and distributors to pay tax of $.03 on rigid/semi-rigid containers for fast food/non-food retail packaging, with exception of 100% glass, aluminum, PET, etc. materials;) - Empowers Environmental Commissioner to limit packaging materials that are not recyclable or reusable, if there is an available substitute; - Bans polyvinyl chloride and polystyrene foam after Sept. 1990.
		Tax Credits	Proposed	- Tax credits would be given to in-state manufacturers using secondary materials in manufacture of new products, and to in-state brewers investing in refillable beer containers;
		Deposit legislation;	Enacted	- Has mandatory beverage container deposit law.
	Funding:	Solid Waste Management Act;	1988;	- Law allocates $26 million from General Fund to solid waste management purposes of which $195 million is direct grants to municipalities. - Monies from proposed $.03 tax on non-recyclable materials would provide estimated $150-300 million/year to a SWM Fund for assistance to local governments for various types of projects.
OR	**Incentives:**	Taxes	Enacted 1985	- For businesses manufacturing recycled plastic products
		Bans	Jan/1989;	- In Portland, as of 1989, restaurants and retailers and packagers prohibited from using polystyrene foam containers with CFC's; - By 1990, restaurants and retail food vendors prohibited from serving food in polystyrene foam products.

REVIEW OF PACKAGING RELATED INITIATIVES IN SELECTED STATES				
STATE	**INITIATIVE**	**TYPE OF INITIATIVE**	**STATUS**	**DESCRIPTION**
	Legislation	Recycling Opportunity Act	Enacted 1983	- All communities provide recycling collection centres; - Population >4,000 must provide curbside collection >1x/mo. - Materials designated by community; - No goal specified.
PA	**..egislation**	Act 101 - Recycling	July/1988	- Requires populations >10,000 to commence recycling programmes by Sept./1990; - Responsibility for SW disposal shifts from municip. to counties, which must submit plan; - Each Munip. must designate >3 materials and all disposal facilities must establish drop-off centre for these materials;
	Target:	Act 101		- 25% diversion by 1997;
	Funding:			- $2/ton fee on all garbage going to landfill and incinerators by Oct/1988; - Munip. given 90% of cost to start recycling & annual performance grants based on tonnage/type of recyclable materials collected/capita; - Counties reimbursed 80% of cost of planning & 50% of cost of hiring recycling coordinator;
	Other:	State Procurement Programme	July/1988	- Have initiated procurement preference programme for products with recycled material;
		Marketing/R&D	July/1988	- DOE must conduct market study to determine statewide markets for recycled materials.
RI	**Legislation:**	R.I. Recycling Act	Enacted 1986	- 1st statewide mandatory recycling law in U.S.A., it requires source separation of designated recyclables; - Municip. must enter into solid waste disposal arrangements meeting with State approval;
		R.I. Recycling Act Regulations	Aug. 1988	- Commercial waste recycling programme requires businesses to separate materials by Jan. 1989; - Businesses of over 500 people must submit Plan;
		Bill 89-H-6562	Under consider-ation;	- Ban on sale of non-recyclable food or beverage containers if they replace a recyclable container used for same purpose;
		Bill 89-H-6564;	Under consider-ation;	- Ban on sale of food & bev. containers composed of more than one material;

REVIEW OF PACKAGING RELATED INITIATIVES IN SELECTED STATES				
STATE	**INITIATIVE**	**TYPE OF INITIATIVE**	**STATUS**	**DESCRIPTION**
		Bill H-9163;	Signed June/1988	- Retailers must provide paper bag and advertise availability of paper bag, if they want permission to use plastic bags;
	Funding:	OSCAR (Ocean State Clean-Up & Recycling);		- 1984 Litter Control Act imposed $.05 tax on each case of beer/soda sold for distri. in State. - Fund used to support many recycling activities including R & D; community composting, etc.
	Incentives:	Tax exemption;	N/A	- Measure exempts all biodegradable bags, boxes & wrapping materials and returnable containers from State sales and use taxes;
	Institutional Measures:	R.I. Source Reduction Task Force	1986	- Public/private sector representation; T.F. has spearheaded legislative campaign at waste reduction;
VT		Law 78	1987	- Legislation imposes "litter levy" against manufacturers and distributors selling liquor in bottles, which, under federal law, cannot be reused.
WI	**Legislation:**	Recycling Act	Amended 1988	- Requires that municipality provide minimum number of collection facilities based on specific population-based criteria; - All landfills receiving 50,000 tons/year and which are open to public must provide collection bins for recycling; - All equipment used for recycling exempt from state sales tax;
		Bans	Under consider-ation;	- As of Jan/1991, ban on sale of food and beverage containers made of steel-aluminum combination; combination of two or more plastics; combination of metal and plastic; any plastic bag for carrying consumer goods, under consideration; Act would also ban polyvinyl chloride packaging Jan/1993 and polystyrene, Jan. 1995.
	Target:			- Reduction:2%; Reuse:2%; Recycling:10%; Composting: 11%; Energy recovery:65%;
	Funding:	Recycling Act	1988	- $50,000 for innovative projects on waste reduction/recovery and oil overcharge $ used for feasibility studies for recycling/energy recovery systems.

REVIEW OF PACKAGING RELATED INITIATIVES IN SELECTED STATES				
STATE	**INITIATIVE**	**TYPE OF INITIATIVE**	**STATUS**	**DESCRIPTION**
FEDERAL/ OTHER INITIATIVES	Legislation:	Municipal Solid Waste Reduction Act(H.R. 1804)	1989	- National policy to reduce waste to levels that can safely be treated; - Act consists of education programmes; studies to determine largest sources of wastes and strategies for reduction; labelling via creation of a Commission to decide what should be labelled and implications to industry;grant programmes for R&D.
		Recycling Act (H.R.1810)	N/A	- Consists of 5 types of initiatives, i.e. studies re reprocessing techniques for recovered materials; procurement, whereby fed. agencies give 10% price preference to recycled material; recycling by Federal employees;Federal assistance for waste management subject to state and municipal recycling plans; bans plastics containing CFC's
		Recycling Promotion Act (H.R. 2845)	1989	- Appears to overlap/be an alternative to the Consumer Products - Recovery Act described above;
		Municipal Solid Waste Source Reduction & Recycling Act (S 1112)	1989	- Bill establishes goals, i.e. by 1993, 10% reduction in MSW from source reduction measures; 25% reduction from recycling; by 1999, 50% reduction from recycling; - Strict bill establishing packaging standards and regulations to minimize packaging in waste stream and maximize reuse/recycling; - States required to have 20 yr. plans and incinerators "will not interfere with achievement of source reduction/recycling goals of Act."
	Other:	Coalition of Northeastern Governors (CONEG)(i.e. Mass. Conn., N.H., N.J., N.Y., Vt., Penn., R.I. and Me.)	1989	- CONEG Source Reduction Task Force has issued Interim Rpt. The mandate of T.F. is to develop "guidelines for 'preferred' products packaging...that contributes less discarded materials to...S.W. stream". - Approach has "voluntary" as opposed to legislative focus; - Calls for: regionally agreed-on definition of "preferred packaging practices"; institutional framework to implement the above; and a strategic plan; - Interim Rpt. recommends 1) voluntary reduction by industry; 2) establishment of indices, goals & standards; 3) education; 4) financial incentives and disincentives.

REVIEW OF PACKAGING RELATED INITIATIVES IN SELECTED STATES				
STATE	**INITIATIVE**	**TYPE OF INITIATIVE**	**STATUS**	**DESCRIPTION**
RELEVANT PRIVATE SECTOR INITIATIVES		NAPCOR (National Assoc. for Plastic Container Recovery)	1989	- NAPCOR is "not for profit trade assoc." whose members are manufacturers of PET resin and bottles; - Franklin Study released claims plastic (PET) soft drink containers are most environmentally efficient in "cradle to grave" analysis. - Specific results of study are that PET is 25% more energy efficient; contributes less atmospheric emissions and land-disposed solid waste by weight and volume than either glass or aluminum; - NAPCOR goal "to promote plastics recycling & to achieve 50% recycling rate for PET by end of 1992;
		Council for Solid Waste Solutions	1988	- Formed by plastics industry to "educate consumers wishing to participate in recycling, and to initiate joint research for long-term solutions to SW plastics-related issues;

APPENDIX C

CANADIAN LEGISLATION

CANADA FEDERAL INITIATIVES			
INITIATIVE	**NAME OF INITIATIVE**	**STATUS**	**DESCRIPTION**
Legislation:	Consumer Packaging & Labelling Act	Enacted	- Container sizes/shapes can be regulated when they are confusing or misleading regarding quantity.
	Food & Drug Act	Enacted	- Regulates, among others, the importing, packaging and labelling of certain foods, drugs, cosmetics, etc., and prohibits the addition of recycled content to food packages.
	Hazardous Products Act & Customs Tariff	Enacted	- Affect packaging, although not in ways which affect the waste stream.
	Canadian Environmental Protection Act	Enacted	- Regulations could be used to require warning on packages containing material which is environmentally damaging, or that contains recycled material.
	Canadian Agricultural Products Act	Enacted	- Regulates the types of containers to be used, and associated labelling requirements for a variety of fresh products, such as frui s and vegetables.
Other Initiatives:	National Task Force on Environment & Economy	On-going	- Established by CCREM to look at environment-economy integration, from a Canadian perspective. In their September/87 report, the Task Force recommended that "special emphasis is required on research into and promotion of waste disposal and recycling, as well as environmental clean-up and enhancement technologies and techniques." (p.5) In their subsequent progress report, the Task Force noted that "there is an increasing commitment in many jurisdictions to waste disposal and recycling. This area of work offers many opportunities for demonstration projects & other visible demonstrations of the principles embodied in the Task Force report."(Oct./88, p. 9)
	Environmental Partners Fund Programme	1989	- Aimed at protecting and preserving the environment, it identifies "waste recycling and waste reduction initiatives (eg. blue-box recycling, bio-degradable conversion and plastics collection);
			- Many other investigations and efforts are on-going within Environment Canada and Industry Science and Technology Canada, to stimulate joint public/private sector initiatives to address environmental issues. Waste diversion is among those areas being addressed.

PROVINCIAL INITIATIVES				
PROVINCE	**INITIATIVE**	**TYPE OF INITIATIVE**	**STATUS**	**DESCRIPTION**
NEWFOUNDLAND	**Legislation:**	Waste Material (Disposal) Act	Enacted 1973	- Act gives responsibility for disposal of empty containers to consumers, by requiring that waste materials be disposed of in garbage receptacle or approved disposal site;
	Voluntary:	Public pressure for "refillables"	on-going	-Currently, all soft drink (s.d.) containers non-refillable; youth grps. have been instrumental in pressing for action; - Gov't and pepsi/coke bottler discussions resulting in voluntary programme of mobile buy-back vehicle collection of aluminum cans & 2 L. plastic bottles. - No deposit system in place; - If after 2 yrs. the "returnables" programme is not effective, legislation forcing returnables could occur.
PRINCE EDWARD ISLAND	**Legislation:**	Environmental Protection Act/Beverage Containers Regulations	1988	- Glass refillables only permitted, accompanied by a deposit system;
	Other Comments:	Curbside collection	Not in practice	- Estimated that cost of "blue box" programme would annually be $50/household. - With small population, economics of recycling are unattractive;
		Energy-from-waste & incineration		- 30% of refuse incinerated; - Energy-from-waste plant currently has operating deficit (built when oil prices were high;)
		Responsibility for waste disposal		- No tipping fees; community dumpsites used; - No precedent for a municipality to be responsible for waste disposal
NOVA SCOTIA	**Legislation:**	An Act Respecting the Abatement of Litter; and An Act to Recover, Recycle, Reuse & Reduce Waste Materials	1989	- "Minister's Task Force on Litter Abatement" led to promulgation and passing of the two Acts. - Litter Act empowers Prov. to extensively regulate packaging material, to require private sector funding of litter control programs,etc; - 4R's Act creates "Resource Recovery Fund" and empowers Prov. to establish cost-sharing measures with public and private sector for recycling.Impact of the Act discussed under sub-headings;

PROVINCIAL INITIATIVES				
PROVINCE	**INITIATIVE**	**TYPE OF INITIATIVE**	**STATUS**	**DESCRIPTION**
		- Policies under Acts		- 70% of Province to participate in multi-material programme by Dec/1993; - 85,000 tones of waste to be recycled and diverted annually by 1993; - develop a recycling programme funded 70% by industry over first 4 yrs. and sufficient to carry programme on beyond;
		- Regulations under Acts	Pending	- The pending regulations may place fees on gross sales or per unit sales of yet-to-be announced industry segments to fund the Resource Recovery Fund; - Prov. will establish objectives regarding litter, recycling and education, to be achieved with this Fund; - If implemented in N.S.'s 3 major centres, multi-material programme will reach over 50% of population;
	Other:	The Clean Nova Scotia Foundation		- Foundation is non-profit group whose "current objectives include the promotion of recycling & creation of litter prevention programmes"; - Foundation provided major impetus for the two Acts described above;
NEW BRUNSWICK	Legislation:	Clean Environment Act		- Empowers Prov. to create "regional Solid Waste Commissions" (SWC's) and require development of WM Plans; Fredericton and Bathurst SWC's currently in place; - 11-13 SWC's intended over next 2-3 yrs.
		Beverage Containers Act	Amendments likely	- "Discussion Paper - Beverage Containers Legislation for N.B.", issued in Apr. 1988, arose out of litter problem and has led to reexamination of a deposit system deemed to be ineffective; Final report and recommendations expected Fall, 1989; - Both of options favoured by Apr./88 report call for deposit/refund on small carbonated bev. containers; beer in refillables only and a multi-material recycling programme;
		Other:	Special Concerns	- 200 open dumpsites and groundwater contamination concerns; - Barriers to recycling include inadequate markets for materials and consumer consumption patterns; - Poor economics of recycling shifts emphasis to reduction at source and emphasis on industry responsibility for life-cycle and overall environmental impact of their products; - Rural nature of N.B. requires specialized approach; - No incineration currently, but it is under consideration.

PROVINCIAL INITIATIVES				
PROVINCE	**INITIATIVE**	**TYPE OF INITIATIVE**	**STATUS**	**DESCRIPTION**
QUEBEC	Legislation:	Environment Quality Act Act respecting Beer and Soft Drink Distributor's Permits	Enacted	- The Environment Quality Act enable the minister to design containers which must bear a deposit and to determine the administration of that deposit; - Agreement relating to the consignment, the recuperation and the recycling of non-refillable beer and soft drink containers (agreement between Government and Industries, since 1984). The "Fonds Quebecois de Recuperation" centralized the administration of the five cent deposit and the two cent handling costs for the retailers.
	New Initiatives	Collecte Selective Quebec	1989	- Officially created on June 7, 1989, this Fund is to be overseen by a joint public/private sector Board, and funded based on contributions by individual companies; - The precise formula of funding for 1989-90 has been adopted by the Board on November 1989; - Fund to be used to support multi-material curbside recycling (individual equipments, sensitization programs), R & D efforts and of cost sorting and processing equipments of recycling centres (to be officialese by the Board, spring 1990).
	Policies	Volume reduction		- government objectives include 50% reduction of solid waste by 2000 and participation of 80% of Quebec households in multi-material recycling within 7 years.
	Programmes	P.A.R.F.A.I.R.		- Government Financial Assistance Program for research, assistance and formation to recycling programs.
	Programmes	F.E.R.R.R.		- Special Fund created by Environment Department and Teachers organizations to implement education programs in school regarding recycling.
	Programmes	Technical Assistance		- Recycling and recovery support programme provides technical assistance for development of municipal projects.
	Programmes	Special Prize Environment		- In cooperation with the SSA '90 International, the Quebec Ministry of the Environment award a "special prize for environmentally-sound packaging" (food distribution sector).

PROVINCIAL INITIATIVES				
PROVINCE	**INITIATIVE**	**TYPE OF INITIATIVE**	**STATUS**	**DESCRIPTION**
ONTARIO	Legislation	Environmental Protection Act & Accompanying Regulations	1986	- Major successful initiative is Ontario Multi-Material Recycling Incorporated (OMMRI) which was largely a result of the Recycling Advisory Committee (RAC - a public/private sector group established to advise the Minister). - OMMRI, established by soft drink industry in 1986. Under original agreement, NR's exempt from deposits as long as 50% recycled by November 1/88; once this attained, market share of refillables could be reduced from original 40% to 35%; 60% recycling rate would induce further drop in refillables to 30%. As result of success of initiative (1.3 million households participating in blue box recycling programme instituted by OMMRI), 70:30 ratio approved by the Minister. Fines have been levied against companies whose monthly refillable sales volumes fell below 25% of total monthly sales;
		"OMMRI II"	Under consideration	- Extension of OMMRI to encompass other materials (eg. mixed plastics, boxboard and corrugated cardboard) is unfolding through on-going discussions between government and industry representatives. OMMRI I and II are largely private-sector driven, to avoid harsh initiatives by government to achieve Provincial waste diversions targets;
	Policies	Waste reduction	Official	- Ontario Minister of Environment has established Provincial targets, as follows: 25% of all solid waste (by weight) diverted from disposal by 1992 and 50% reached by the year 2000.
			Incineration	- While note official policy, there is a clear perception that incineration as an alternative, is discouraged. However, under the Environmental Assessment Act, it must be considered as an option.

PROVINCIAL INITIATIVES				
PROVINCE	**INITIATIVE**	**TYPE OF INITIATIVE**	**STATUS**	**DESCRIPTION**
	Programmes	4 "R's"-related Programmes		- Municipal 4R's programme provides grants up to 50% of promo. and capital costs for projects reducing consumer waste requiring treatment or disposal (eg. composting, packaging); - Industrial 4R's programme provides assistance to industry for waste reduction initiatives. - Municipal Recycling Support Programme provides financial & technical assistance for development/expansion of municipal scale recycling projects; - Municipal Recovery Programme grants up to 33% of in-service capital cost of facilities to recover materials from mixed solid waste directed to municipal landfill and for support needs (eg. feasibility studies, etc.) - Municipal Assistance Programmes for treatment and disposal include Financial Assistance Programme, Waste Management Improvement Programme and Waste Management Master Plan programme.
		Other	Under Consideration	- A variety of activities are underway within government to target various elements of the waste stream. A fund of $225 million has been discussed to fund development of new answers to solid waste issue, over 10 year period. Government will look to private sector to contribute a parallel amount; - Ontario Resolution 34 on Plastic Packaging calls for Minister of the Environment to develop a plastics waste management policy, and reflects preference to the reuse, recovery and reduction of plastic packaging and, failing these, to consider environmentally safe degradation as an option.
	Municipal/ Regional	GTA Initiatives	On-going	- Regions surrounding Metropolitan Toronto and Metro have pulled together to spearhead a coordinated approach to landfill emergency situation; they will look for a "state of the art" waste management system to be implemented over the 1992-1996 period and for a separate long-term proposal to address 1996 and beyond.

PROVINCIAL INITIATIVES				
PROVINCE	**INITIATIVE**	**TYPE OF INITIATIVE**	**STATUS**	**DESCRIPTION**
	Non-governmental Initiatives	RCO; Pollution Probe; CELA; Citizens for a Safe Environment;		- Many initiatives being led by a variety of non-profit groups. The Recycling Council of Ontario (RCO) is an advocacy group for recycling, composed of recycling operators, municipal and private sector bodies. They are heavily funded by MOE and provide an important advisory, educational and informational function. (eg. Ontario Recycling Information Service - ORIS) The other bodies are actively engaged as watchdogs on public/private sector activities relating, among others, to solid waste management and packaging.
MANITOBA	Legislation	None		- Under voluntary arrangement, industry has restricted sale of glass non-refillables and maintained can sales at "reasonable" level. Deposit system for glass refillables exists; - Industry has also, in 1986, implemented "mobile depot" recycling system to reduce no. of NR's in waste stream, to avoid deposits. The system is funded by industry and called "Manitoba Soft Drink Recycling Incorporated" (MSDRI)
	Other Initiatives	Government Task Force	1989	- Government appointing Task Force to evaluate waste management options, given that recycling only applies to beverage containers.
SASKATCHEWAN	Legislation	Litter Control Act	Amended 1988	- From 1973-88, only glass Refillables allowed; in 1988, amendment permitted NR's and concurrently established recycling system; - Under system, "Env. Protection Fund" revenues come from "Env. Charge" of $.02 levied on NR's.and from unclaimed deposits; Fund used to pay private contractor's operating costs for running of depots; profit is value of recycling proceeds and is used to employ 150 handicapped. - Results over 1st fiscal year: PET - 16% returns; and Aluminum: 45%;

PROVINCIAL INITIATIVES				
PROVINCE	INITIATIVE	TYPE OF INITIATIVE	STATUS	DESCRIPTION
		Multi-materials collection		- Government has not initiated action to include recycling of other materials. Economics of "blue box" are under examination - Currently little pressure as tipping fees are low and landfills are "cheaply operated". - In future, depots may handle containers beyond the present beer and carbonated beverages;
ALBERTA	Legislation	Beverage Container Act	1989	- Deposits on refillables and NR's and may be extended to Tetrapak containers;
		Legislative Review	1989	- Minister announced in July that a comprehensive recycling programme will be defined in October 1989;
		Multi-materials collection		- Currently, blue box programmes are generally municipal initiatives. However, government supports these by, for example, encouraging marketing of recycled materials;
	Other Initiatives	Resource Recovery Grant Programme		- Government provides assistance to communities wishing to initiate recycling activities;
		Environmental Council of Alberta		- Produced major report and undertake ongoing research regarding the economic viability of recycling;
		Recycling Council of Alberta	1987	- Brings together, private, non-profit, university and municipal reps., to promote recycling. Is funded internally by its members.
BRITISH COLUMBIA	Legislation	Litter Act and Regulations		- B.C. was first in North America to require deposits; in recent years efforts have been initiated by soft drink assoc. to fund "blue box" programme (similar to Ontario's OMMRI) in return for end to deposits; - High return rate (60%) appears to give Gov't. little incentive to alter deposit system in any significant way.

PROVINCIAL INITIATIVES				
PROVINCE	INITIATIVE	TYPE OF INITIATIVE	STATUS	DESCRIPTION
	Other Initiatives	Municipal Solid Waste Management Task Force	1989	- While s.d. industry was proposing an alternative to deposits, gov't. review of s.w. policy led to "Task Force" headed by J. Rabbitt, MLA, to review Gov't policy; - Recently released Rabbitt Report targets 35% decrease in waste disposal volumes over 5 yrs.(10% by composting; 25% by recycling;) and reinforces traditional emphasis on deposits and on a "user pay" principle; Beyond the deposit legislation, Government role appears to be a support rather than instigating one. The Report recommends that the Government provide financial support for implementation of municipal blue box programmes and similar initiatives.
		Multi-materials Programmes		- Blue box programmes appear, largely to be at instigation of municipalities; context of Province appears to be that local gov'ts. should decide most suitable approach to waste management, i.e. incineration, composting, blue box, etc.
NORTHWEST TERRITORIES AND THE YUKON	Legislation	No legislation		- Reports have been undertaken addressing beverage containers; litter problem is severe and only limited educational programmes are undertaken; - Government is currently considering implementation of a deposit system;
	Other Comments			- Barriers to recycling are strong, as result of low population, high transportation costs and remoteness; - Some pilot recycling projects are underway, and normally are instigated at grassroots level.